May 2026

CITY OF SIGNAL HILL

2025 URBAN WATER MANAGEMENT PLAN

Prepared By

AKM Consulting Engineers
553 Wald
Irvine, California

CITY OF SIGNAL HILL

2025 URBAN WATER MANAGEMENT PLAN

Submitted to

CITY OF SIGNAL HILL
2175 Cherry Avenue
Signal Hill, California 90755

Submitted by

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Irvine, California 92618

June 2026

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ABBREVIATIONS

Act – Urban Water Management Planning Act
AF – acre-feet
AFY – acre-feet per year
AMI – area median income
AMR – Automated Meter Reading
APA – Allowable Pumping Allocation
ARC – Albert Robles Center for Water Recycling and Environmental Learning
AWWA – American Water Works Association
BMP – Best Management Practices
CBMWD – Central Basin Municipal Water District
CWBWRD – Central and West Basin Water Replenishment District
CB-19 – Imported Water Connection CB-19
CBWCB – Central Basin and West Coast Basin
CRA – Colorado River Aqueduct
City – City of Signal Hill
CWC – California Water Code
CII – Commercial, Industrial, and Institutional
DAC – Disadvantage Communities
DDW – Division of Drinking Water (State Water Resources Control Board)
DOF – Department of Finance (California)
DMM – Demand Management Measures
DLID – Domestic Low Income Discount
DPR – Direct Potable Reuse
DRA – Drought Risk Assessment
DWR – Department of Water Resources (California)
EPA – Environmental Protection Agency (U.S.)
EAR – Electronic Annual Report
FY – Fiscal Year
GIS – Geographic Information System
GBMP – Groundwater Basins Master Plan
GLAC – Greater Los Angeles County
gpcd – gallons per capita per day
gpscd – gallons per service connection per day
GRA – Gateway Regional Alliance
GWMA – Los Angeles Gateway Regional Integrated Regional Water Management Authority
HCW – High Capacity Well
I-405 – Glenn Anderson Freeway
I-605 – San Gabriel River Freeway
IRWM – Integrated Regional Water Management
IRWMP/IRWMR – Integrated Regional Water Management Plan/Report
IRP – Integrated Resources Plan
JPA – Joint Powers Authority

JWPCP – Joint Water Pollution Control Plant
LACSD – Los Angeles County Sanitation District
LACDPW – Los Angeles County Department of Public Works
LBPUD – Long Beach Public Utilities Department
LBWD – Long Beach Water Department (now called LBPUD)
LBWRP – Long Beach Water Reclamation Plant
LACFCD – Los Angeles County Flood Control District
LGAC – Liquid Granular Activated Carbon
MCL – Maximum Containment Level
MCLG – Maximum Containment Level Goal
MWD – Metropolitan Water District of Southern California
PCE – Tetrachloroethylene
PFAS - Polyfluoroalkyl substance
PFOA - Perfluorooctanoic acid
PFOS - Perfluorooctane sulfonic acid
PHG – Public Health Goal
RDCIP – Regional Disadvantaged Communities Incentive Program
RHNA – Regional Housing Needs Allocation
RTP – Regional Transportation Plan
RUWMP – Regional Urban Water Management Plan
SB X7-7 – Senate Bill X7-7
SCAG – Southern California Association of Governments
SDLAC – Sanitation Districts of Los Angeles County
SJCWRP – San Jose Creek Water Reclamation Plant
SWP – State Water Project
State – State of California
TCE - Trichloroethylene
TDS – Total Dissolved Solids
TOC – Table of Contents
UCLA – University of California Los Angeles
UWMP – Urban Water Management Plan
WRD – Water Replenishment District
WSCP – Water Shortage Contingency Plan
WUE – Water Use Efficiency
WUS – Western United States
Zone I, II, III, IIIA – Pressure zones in the distribution system

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SECTION 1
INTRODUCTION

1-1 Background and Purpose

The Urban Water Management Planning Act (UWMP Act) was originally passed in 1983 and became effective on January 1, 1984. The UWMP Act requires that urban water suppliers submit an Urban Water Management Plan (UWMP) to the State of California (State) once every five (5) years. California Water Code (CWC) §10610 through §10657 and §10608 details the information that must be included in the UWMP as well as who must file them.

A water agency is defined as an "urban water supplier", either publicly or privately owned, if it provides water for municipal purposes either directly or indirectly to more than 3,000 end users or supplies more than 3,000 acre-feet of potable water annually. The City of Signal Hill (City) is considered an urban "retail" water supplier, as the City provides water to over 3,000 retail customers.

The UWMP provides a framework for long term water planning and informs the public of a supplier's plans for long-term resource planning that ensures adequate water supplies for existing and future demands. The UWMP should address and evaluate these water-planning fundamentals:

- Current and future water use;
- Potable and non-potable water supplies;
- Water supply sources;
- Water supply reliability;
- Drought Risk Assessment (DRA);
- Water Shortage Contingency Plan (WSCP)

Senate Bill X7-7 (SB X7-7), the Water Conservation Act of 2009 was signed into law in November 2009. This legislation required urban retail water suppliers to set Urban Water Use Targets for 2015 and 2020 so that a 20 percent statewide reduction in urban per capita water use could be met by 2020. Urban retail water suppliers are required to develop their water use targets and submit an UWMP to qualify for state grants and loans.

There have been no UWMP requirement changes since 2020; only definitions have been added or updated. A copy of the 2025 UWMP Checklist can be found in Appendix 1-1.

1-2 Regional Planning

According to §10608.20(a)(1) and 10608.28 of the CWC, urban retail water suppliers may plan, comply, and report their urban water use targets on a regional basis, an individual basis or both.

The City of Signal Hill (City) is a member of the Los Angeles Gateway Integrated Water Management Authority (GWMA) which developed and keeps up to date a detailed integrated regional water management plan (IRWMP). The goal of the IRWMP is to address the water resources needs of the Greater Los Angeles Region in an integrated and collaborative manner to:

- improve water supplies,
- enhance water supply reliability,
- improve surface water quality,
- preserve flood protection,
- conserve habitat, and
- expand recreational access.

The GWMA is a joint powers authority (JPA) under California law. There are currently 19 entities signatory to the JPA.

The Gateway Regional Alliance (GRA) was formed in 2011 by 15 of the agencies within the Greater Los Angeles Region to comply with the reporting requirements of SB X7-7 on a regional basis. If the GRA meets its regional target, then all suppliers in the alliance will be deemed compliant. If the GRA fails to meet its regional target, water suppliers in the alliance that meet their individual targets will be deemed compliant. Water suppliers in alliances that meet neither their individual target nor their regional target will be deemed non-compliant.

The goal of the GRA is to provide flexibility for the cities and water agencies within the Greater Los Angeles Region to comply with the requirements of SB X7-7, as well as allowing the participating agencies to take a regional approach to water conservation and encourage further cooperation between participating agencies.

Per GWMA's "Summary of Baseline and Compliance Urban per Capita Water Use Determination" report dated June 2016, the City's weighted 2020 Urban Water Use Target is 151 gallons per capita per day (GPCD). The GRA 2020 Urban Water Use Target is 111 GPCD.

1-3 Lay Description

Water service reliability is dependent on having enough high quality water supplies to meet future demands. Details of future water demands and available water supplies are described in this 2025 UWMP.

The City's service area population is estimated to increase by 1,587 over the next 25 years, which is about a 13 percent increase. The water demand has decreased another 15 percent over the past five years even though the population has increased slightly. This is assumed to be in large part to the permanent water conservation measures in place and educating the public about water conservation.

The City's water supply sources include groundwater, imported water, and recycled water. During the last five years, the supply was about 55 percent groundwater and 45 percent imported water. This is in part due to declining well capacity. The City completed the construction of Well No. 10 in 2025 and it is currently permitted to operate by the Division of Drinking Water. Once in operation, the City plans to provide about 70 percent of the supply with groundwater and 30 percent with imported water. Imported water will primarily be used to meet the peak demands or as an emergency supply source.

The Water Replenishment District (WRD) publishes an annual Regional Groundwater Monitoring Report for the Central and West Coast Basins. Per the 2024-2025 report, the groundwater quality in Central Basin is generally of "*good quality and is suitable for use by the pumpers in the District, the stakeholders, and the public. Groundwater from localized areas with marginal to poor water quality can still be utilized but may require treatment prior to being used as a potable source*". Due to the quality of the groundwater in the

basin, minimal water treatment occurs prior to entering the potable water system. The City disinfects the groundwater by means of chloramination to promote greater ease of blending with the imported water, which is chloraminated as well. Groundwater quality is not expected to be a constraint on groundwater as a source of water in the future.

Based on analysis of historical rainfall data and associated demands, the City anticipates that there will be a surplus of supply during all average, single dry years, and multiple dry years (up to 5 years) that may occur in the future. No drastic action is expected to be needed as long as typical water supplies are available.

The drought risk assessment (DRA) is an evaluation that assumes the occurrence of a drought over a 5 year time period. Climate change may not significantly reduce supply in Central Basin but demands in the Greater Los Angeles County (GLAC) Region are predicted to increase due to increased temperatures, especially because potable water is still used for irrigation purposes. This in turn could place a larger demand on the groundwater supplies that are available. In order to account for this possibility, the City conservatively conducted the assessment as if only the amount of groundwater rights was available and there was no carryover included in the City's total available groundwater supply. The total production and purchase data from the five driest consecutive years on record, increased by the amount of water demand expected from an increase in population by 2030 was utilized in the DRA evaluation to represent the annual water use for a potential future 5-year dry period. The demands ranged from 1,950 acre-feet (AF) to 2,274 AF. This resulted in a deficit ranging from 29 AF to 252 AF. This would require the use of imported water or up to a 9 percent reduction in demand which could be achieved with additional water conservation efforts or declaring an additional Water Shortage Condition stage per the WSCP (See Appendix 8-1).

The City's groundwater right of 2,022 acre-feet per year (AFY) is in the Central Basin Aquifer. The City's existing potable water demand is currently 1,677 AFY. The demands are not expected to increase back to the level that it once was before water conservation regulations went into effect. Therefore, even under the condition of not being able to access groundwater carryover rights, the City is expected to have enough supply to meet the demands during future drought years.

SECTION 2

PLAN PREPARATION

2-1 Basis for Preparing Plan

The City of Signal Hill's (City) 2025 UWMP has been prepared to conform to CWC Division 6, Part 2.6: Urban Water Management Planning. CWC §10610 through §10657, known as the Urban Water Management Planning Act (UWMP Act).

Originally enacted in 1983, the Act requires that every urban water supplier (providing water for municipal purposes to more than 3,000 end users or supplying more than 3,000 acre-feet of water annually) prepare and adopt an UWMP. The Act requires urban water suppliers to prepare plans that describe and evaluate reasonable and practical efficient water uses, recycling and conservation activities. These plans are to be filed with the California Department of Water Resources (DWR) every five years.

2-2 Public Water System and Plan Identification

The City meets the reporting threshold of 3,000 or more end users or 3,000 acre-feet (AF) of water supplied. As shown in Table 2-1, the City delivered 1,677 AF of water to 3,035 municipal connections in 2025. Table 2-2 documents the City's choice to prepare an individual plan for its 2025 UWMP.

Table 2-1
Public Water System

Submittal Table 2-1 Retail: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
1910149	City of Signal Hill, Water Department	3,035	1,677
	Total	3,035	1,677
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES:			

Table 2-2
Plan Identification

Submittal Table 2-2: Plan Identification		
Select One	**Type of Plan**	**Name of Regional Alliance or RUWMP** (Drop Down List)
☑	**Individual UWMP**	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select name from the drop-down.	Gateway Regional Alliance
☐	**Regional Urban Water Management Plan (RUWMP)**	
	If Supplier selected RUWMP, select name from the drop-down.	
NOTES:		

2-3 Reporting Year and Units of Measure

All of the City's water demand and supply data in this document is reported in calendar years and the units of measure are in acre-feet (Table 2-3).

Table 2-3
Supplier Identification

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☑	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP (Select from the drop down list).	
Unit	AF
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

2-4 Coordination with Wholesale Agencies

Central Basin Municipal Water District (CBMWD) is the City's wholesale water supplier as shown in Table 2-4.

Table 2-4
Water Supplier Information Exchange

Submittal Table 2-4 Retail: Water Supplier Information Exchange Water Code Section 10631(h)
The retail Supplier has informed the following wholesale supplier(s) of projected water use.
Wholesale Water Supplier Name
Central Basin Municipal Water District (CBMWD)
NOTES:

2-5 Coordination with Other Agencies

The City notified the following agencies that the 2025 UWMP was being prepared:

1. Central Basin Municipal Water District (CBMWD)
2. Water Replenishment District (WRD)
3. Long Beach Public Utilities Department (LBPUD)
4. Los Angeles County Department of Public Works (LACDPW)

As required by CWC §10621, these notifications were sent out more than 60 days before the public hearing for the 2025 UWMP.

SECTION 3

SYSTEM DESCRIPTION

3-1 General Description

The City of Signal Hill (City) is located in Los Angeles County, California. It is approximately 3 miles north of the Port of Long Beach and 22 miles south of downtown Los Angeles. The City covers approximately 2.2 square miles and is surrounded by the City of Long Beach as shown on Figure 3-1. The City is accessible from the San Diego Freeway (I-405), located to the immediate north. The main roads providing access into the City include Cherry Avenue and Pacific Coast Highway. The City's water service area coincides with the City boundary.

3-2 Geology

The City is located in Los Angeles County, which is considered in a youthful state of geologic evolution and is unstable. Many active and potentially active earthquake faults are found throughout the county. Liquefaction, land sliding, shattered ridges, land settlement, tsunamis and seiches are other potential seismic-related hazards that could occur in the region. The City is close in proximity to the Newport-Inglewood Fault, which was responsible for the 1933 Long Beach earthquake that registered 8.3 on the Richter scale. The Newport-Inglewood Fault is a normal fault with a strike slip fault component. Several other potentially active faults in the area are the Cherry Hill Fault, the Dickler Fault, the Northeast Flank Fault, and the Reservoir Hill Fault. (*Ref: Environmental Resources Element of General Plan*).

3-3 Topography and Elevations

The elevations within the service area vary from 25 feet above sea level in the southwestern portion of the City to 370 feet above sea level at the hilltop plateau. Slopes vary from 10 to 80 percent. The slopes are often not uniform due to the fact that cuts were made in roads and pads to provide road access to service the oil equipment and developments. There are steep slopes that terminate in a flat terrace shape. The greatest percentage of slope changes occur on the southerly slopes of the Hill with an average of 40 percent slope and increasing to as much as 80 percent slope (*Ref: Environmental Resources Element of General Plan*).

3-4 Soils

The City is located in the Los Angeles Coastal Plain, which sits on an extraordinarily deep marine and nonmarine sedimentary base. The soil in the City is primarily composed of weathered alluvium and is classified as silts and sands (*Ref: Environmental Resources Element of General Plan*).

3-5 Land Use

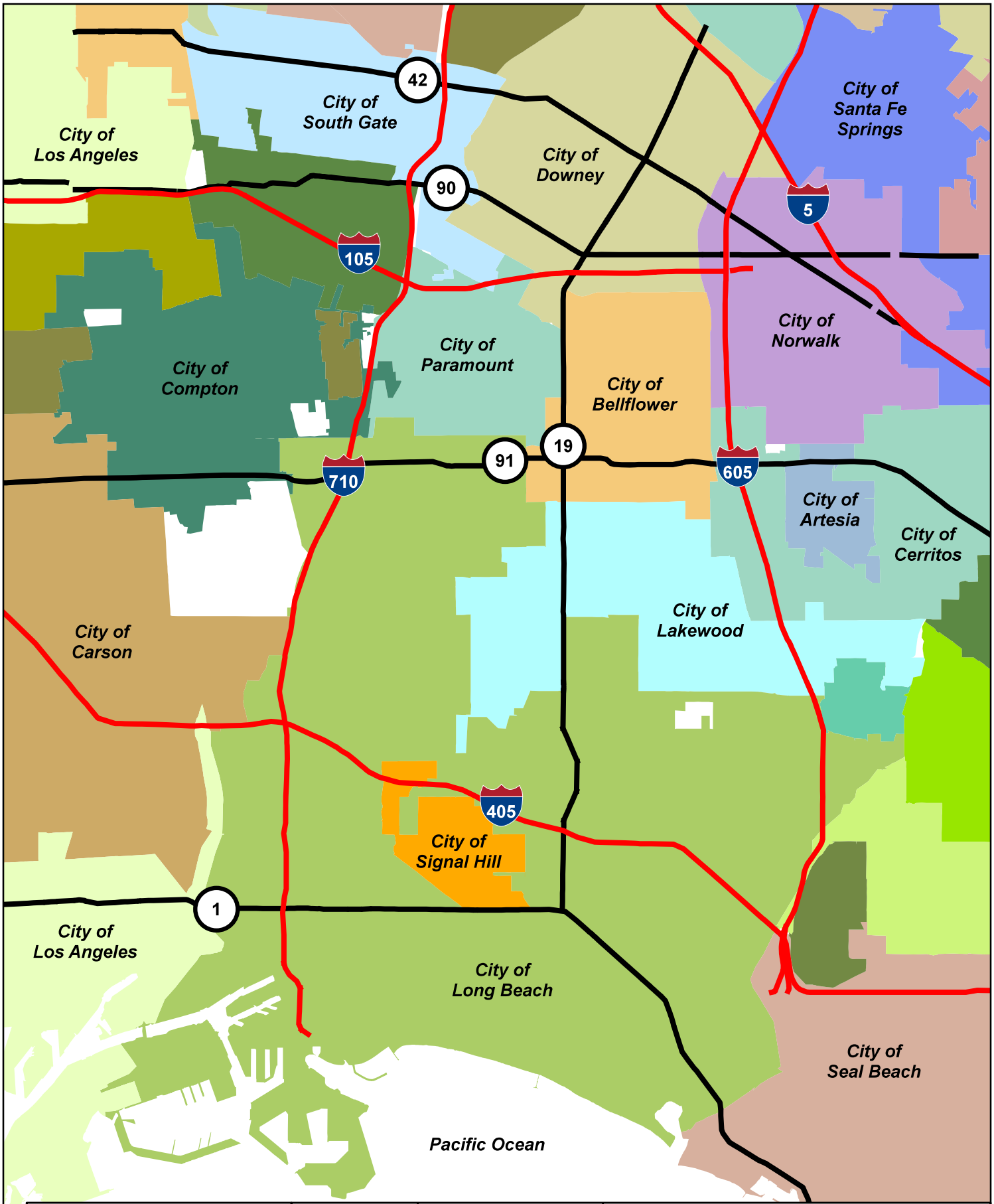
The existing City land use is shown on Figure 3-2 and the distribution is shown in Table 3-1, per the City's latest geographic information system (GIS) land use information. Within the City, the primary land uses are residential (290 ac or 20.6%), industrial (287 ac or 20.4%), office/commercial/services (191 ac or 13.5%) and oil drill sites (104 acres or 7.4%). Approximately 97 acres or 6.9 percent of the total is currently vacant or undeveloped. The City's future land uses are shown on Figure 3-3 and in Table 3-2.

Table 3-1
Existing Land Use

Land Use	Net Acres	Percent of Total
Single Family Residential	126.8	9.0%
Multi-Family Residential	163.6	11.6%
General Office	27.8	2.0%
Commercial and Services	156.6	11.1%
Mixed Commercial and Industrial	5.7	0.4%
Mixed Residential and Commercial	0.7	0.0%
Industrial	287	20.4%
Facilities	14.4	1.0%
Education	34.8	2.5%
Open Space and Recreation	22.4	1.6%
Transportation, Communications and Utilities	36.2	2.6%
Oil Drill Site	103.8	7.4%
Vacant	97.2	6.9%
Right-of-Way	331	23.5%
Total	**1,408**	**100.0%**

Table 3-2
Future Land Use

Land Use	Net Acres	% of Total
Low Density Residential	304.4	21.6%
Medium Density Residential	88.2	6.3%
High Density Residential	106.9	7.6%
Very High Density Residential	18.0	1.3%
General Industrial	172.0	12.2%
Light Industrial	191.5	13.6%
Commercial Industrial	124.3	8.8%
Commercial General	156.9	11.1%
Commercial Office	28.6	2.0%
Town Center	87.8	6.2%
Public Institutional	56.6	4.0%
Open Space	28.2	2.0%
Right-of-Way	44.7	3.2%
Total	**1,408**	**100.0%**



N

US Feet

0 4,500 9,000

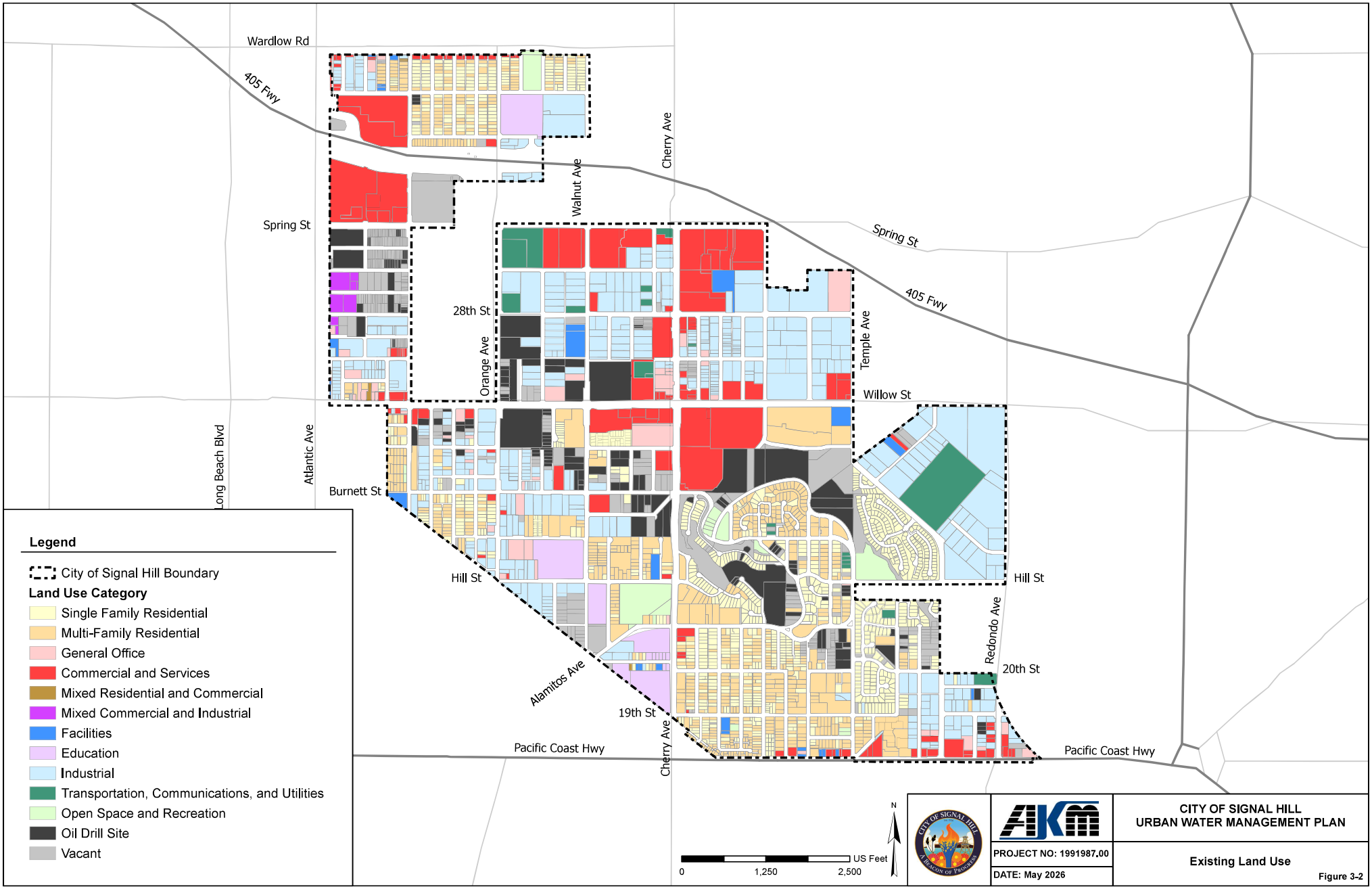
CITY OF SIGNAL HILL
URBAN WATER MANAGEMENT PLAN

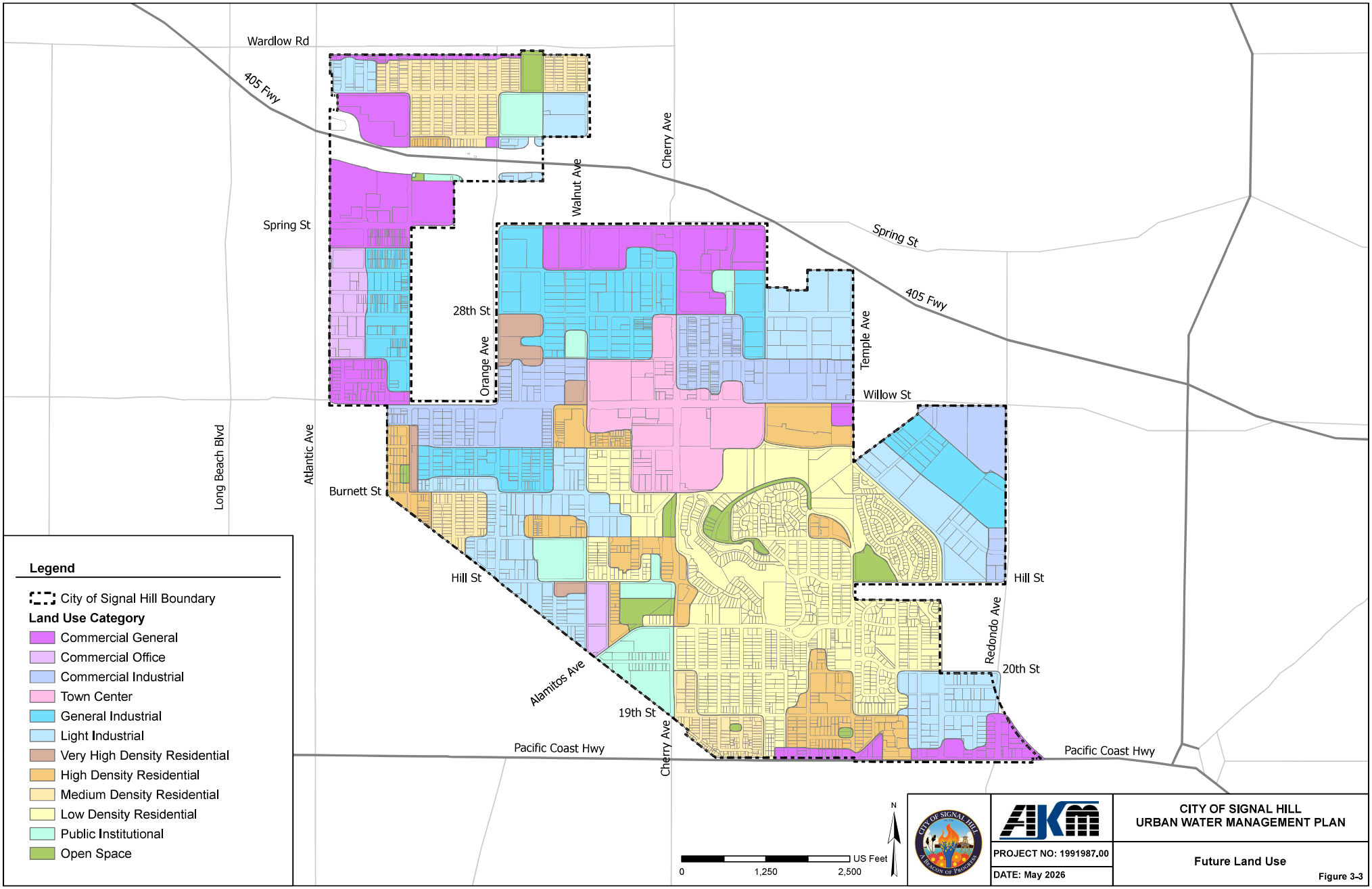
PROJECT NO: 1991987.00

DATE: May 2026

Regional Location Map

Figure 3-1


Wardlow Rd
405 Fwy
Spring St
Walnut Ave
Cherry Ave
Spring St
405 Fwy
28th St
Orange Ave
Temple Ave
Willow St
Long Beach Blvd
Atlantic Ave
Burnett St
Hill St
Hill St
Redondo Ave
20th St
Alamitos Ave
19th St
Cherry Ave
Pacific Coast Hwy
Pacific Coast Hwy
Legend
City of Signal Hill Boundary
Land Use Category
Single Family Residential
Multi-Family Residential
General Office
Commercial and Services
Mixed Residential and Commercial
Mixed Commercial and Industrial
Facilities
Education
Industrial
Transportation, Communications, and Utilities
Open Space and Recreation
Oil Drill Site
Vacant
N
0
1,250
2,500
US Feet
CITY OF SIGNAL HILL
URBAN WATER MANAGEMENT PLAN
PROJECT NO: 1991987.00
DATE: May 2026
Existing Land Use
Figure 3-2


Wardlow Rd
405 Fwy
Spring St
Walnut Ave
Cherry Ave
Spring St
405 Fwy
28th St
Orange Ave
Temple Ave
Willow St
Long Beach Blvd
Atlantic Ave
Burnett St
Hill St
Hill St
Redondo Ave
20th St
Alamitos Ave
19th St
Cherry Ave
Pacific Coast Hwy
Pacific Coast Hwy
Legend
City of Signal Hill Boundary
Land Use Category
Commercial General
Commercial Office
Commercial Industrial
Town Center
General Industrial
Light Industrial
Very High Density Residential
High Density Residential
Medium Density Residential
Low Density Residential
Public Institutional
Open Space
N
US Feet
0
1,250
2,500
CITY OF SIGNAL HILL
URBAN WATER MANAGEMENT PLAN
PROJECT NO: 1991987.00
DATE: May 2026
Future Land Use
Figure 3-3

3-6 Climate

The City's service area typically experiences a Mediterranean climate with warm, dry summers and mild winters. It lies in the heart of Southern California's coastal plain where it benefits from cool ocean breezes and the marine cloud layer, keeping the average temperature about 65.2°F. Average annual precipitation for the area has historically been about 11.2 inches, with most precipitation occurring between the months of November to March. Information on temperatures, precipitation, and evapotranspiration (ETo) for the City are provided in Table 3-3. Temperature and precipitation data was obtained from the National Oceanic and Atmospheric Administration.

Table 3-3
Service Area Climate

Climate													
Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual**
Average Temp (F°)[1]	57.6	57.8	60.5	62.9	65.8	69.2	73.5	74.7	73.6	68.7	62.6	57.0	65.2
Average Total Precipitation (in)[1]	2.28	2.77	1.39	0.49	0.25	0.01	0.04	0.11	0.09	0.58	0.79	2.31	11.19
Average Eto (in)[2]	2.17	2.59	3.57	4.50	5.17	5.22	5.70	5.82	4.48	3.47	1.84	1.63	46.16

[1] *National Weather Service, National Oceanic and Atmospheric Administration Online Weather Data - Long Beach, California Weather Forecast Office Period of Record 1/1/00 to 3/31/2026*

[2] *California Irrigation Management Information System, 2025, Station ID: 174, Station Name: Long Beach*

Annual rainfall data collected by the LACDPW is shown in Table 3-4. The annual amount of rainfall varies dramatically from year to year. The average rainfall from 2001 to 2024 was 11.76 inches, ranging from 2.58inches to 28.00 inches per year. The driest year in the last 25 years occurred in 2006-2007, when only 2.58 inches of rainfall was recorded. The driest five years in the last 25 years were from 2011-2012 to 2015-2016, when the total rainfall was 33.24 inches.

The state of California declared a Drought State of Emergency on January 17, 2014. The drought was declared at an end on April 7, 2017 after the driest four-year period on record. Beginning in 2020, California again experienced prolonged dry conditions. On October 19, 2021 the State of California expanded the drought emergency to all 58 counties in California. In response to improving hydrologic conditions following the wet 2022-2023 season, the State of California began easing drought emergency provisions on March 24, 2023. The drought State of Emergency for Los Angeles County was subsequently terminated on September 4, 2024, as water supply conditions improved following multiple wet winters.

Table 3-4
Historical Rainfall

Water Year (Oct. 1-Sept. 30)	Precipitation (inches)	LACPW Station ID[1]	LACPW Station Name	5 Year Total	Comment
2000-2001	15.67	1254	Long Beach Reclamation Plant	-	
2001-2002	4.08	1254	Long Beach Reclamation Plant	-	
2002-2003	15.33	1254	Long Beach Reclamation Plant	-	
2003-2004	6.69	1254	Long Beach Reclamation Plant	-	
2004-2005	28.00	1254	Long Beach Reclamation Plant	69.77	
2005-2006	9.28	1254	Long Beach Reclamation Plant	63.38	
2006-2007	2.58	662D	Long Beach Airport	61.88	Driest Year
2007-2008	10.90	662D	Long Beach Airport	57.45	Normal Year
2008-2009	9.44	662D	Long Beach Airport	60.20	
2009-2010	15.66	662D	Long Beach Airport	47.86	
2010-2011	18.80	662D	Long Beach Airport	57.38	
2011-2012	7.59	662D	Long Beach Airport	62.39	
2012-2013	6.69	662D	Long Beach Airport	58.18	
2013-2014	4.62	662D	Long Beach Airport	53.36	
2014-2015	9.35	662D	Long Beach Airport	47.05	
2015-2016	4.99	662D	Long Beach Airport	33.24	End of driest 5 years
2016-2017	20.10	662D	Long Beach Airport	45.75	
2017-2018	3.53	662D	Long Beach Airport	42.59	
2018-2019	17.63	662D	Long Beach Airport	55.60	
2019-2020	14.21	662D	Long Beach Airport	60.46	
2020-2021	4.56	662D	Long Beach Airport	60.03	
2021-2022	7.59	662D	Long Beach Airport	47.52	
2022-2023	23.75	662D	Long Beach Airport	67.74	
2023-2024	21.09	662D	Long Beach Airport	71.20	
2024-2025	-	-	Not Available	-	
Minimum	**2.58**				
Average	**11.76**				
Maximum	**28.00**				

[1] *Los Angeles County Department Public Works ALERT Rainfall Station ID*

3-7 Population

Since its incorporation in 1924, the City has grown from a population of 2,932 to approximately 11,848 in 2025 (*Ref: City of Signal Hill 2024 Electronic Annual Report (EAR) to the Division of Drinking Water (DDW)*).

The Southern California Association of Governments (SCAG) Demographic and Growth Forecast, dated April 2024 estimated the City's population at 11,900 in 2019. The SCAG Demographic and Growth Forecast projects the number of households in the City to increase from 4,500 in 2019 which equates to 2.644 persons per household (11,900 persons/ 4,500 households). The number of households is projected to increase to 5,100 in 2050. Assuming an average of 2.644 persons per household, the total increase of 600

households equates to 1,587 additional people in the City. Therefore, the City of Signal Hill is expected to have a population of 13,487 (11,900 + 1,587) in 2050.

The current and projected City service area population estimates are shown in Table 3-5. Intermediate year projections were estimated, assuming a linear rate increase between 2025 and 2050. This approach provides a consistent, incremental progression of population growth over the planning horizon.

Table 3-5
Population – Current and Projected

Submittal Table 3-1 Retail: Population - Current and Projected Water Code Section 10631(a)						
Population Served	2025	2030	2035	2040	2045	2050(opt)
	11,848	12,176	12,503	12,831	13,159	13,487
NOTES: The 2025 population is estimated based on the City's 2024 EAR Report submitted to DDW. The 2024 SCAG Demographic and Growth Forecast projections for the City of Signal Hill were utlized in calculating the City's future population.						

Summary of Quantified Housing Objectives

Per the City's 2021-2029 Housing Element, the City established quantified housing objectives by income group for the 2021-2029 planning period, shown in Table 3-6. The new construction objective is based on the City's remaining Regional Housing Needs Allocation (RHNA) of 509 units after accounting for approved projects. The rehabilitation objective reflects the number of existing housing units expected to be rehabilitated during the planning period, including a 5-unit objective for lower income households based on the assumption that funding for a housing rehabilitation program will become available during the 8-year planning period. The conservation and preservation objective is based on maintaining the City's existing affordable housing stock and the estimated number of lower income households receiving rental assistance, with approximately 50 households assisted annually by the Housing Authority of the County of Los Angeles.

Table 3-6
Quantified Housing Objectives: 2021-2029

Category	Extremely Low	Very Low	Low	Moderate	Above Moderate	Total
Construction	80	81	78	90	180	**509**
Rehabilitation	1	2	2	0	0	**5**
Conservation/ Preservation	25	15	10	0	0	**50**

3-8 Other Social, Economic, and Demographic Factors

The City's service area does not have significant non-residential populations, such as seasonal populations, which fluctuate based on vacation, agricultural, institutional, or commercial economies. There is not a significant student housing population in the service area and no agriculture occurs in the area. The majority of the population are permanent residents in single family and multifamily homes. Therefore, no adjustments for non-residential populations were incorporated into the population estimates.

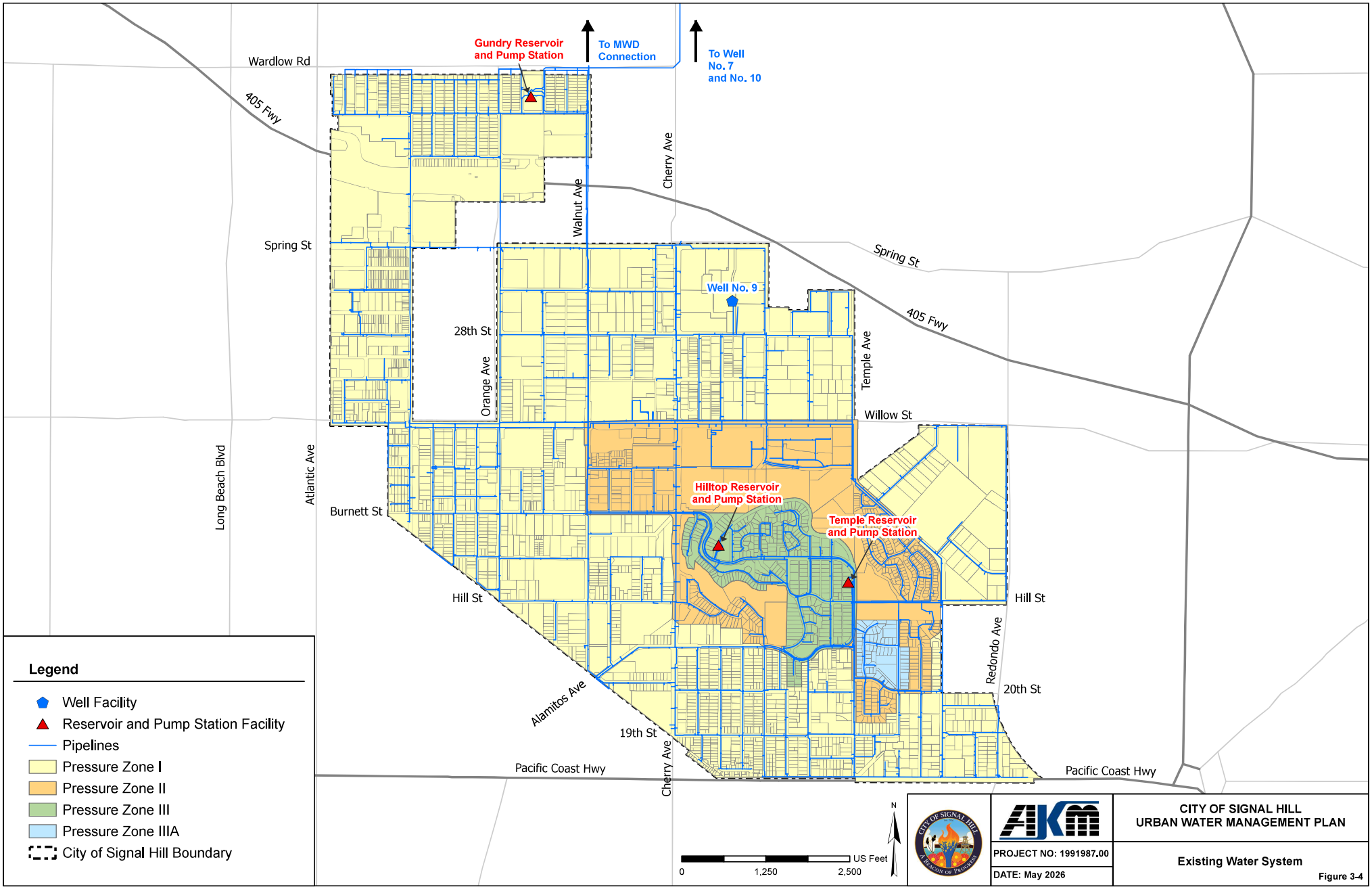
Based on the fact that the service area is essentially built out and there are minimal areas of redevelopment, a large increase in population and/or water use is not expected in the future.

3-9 Potable Water System

The City's potable water service area lies completely within the City of Signal Hill as shown on Figure 3-4. The water system consists of four pressure zones (Zone I, II, III, and IIIA). Zone IIIA is served water through a pressure regulating station. The water system consists of the following facilities:

- 50 miles of pipe, 4-inches to 20-inches in diameter
- 3 Storage Reservoirs (Gundry, Temple, Hilltop) with a total capacity of 7.3 MG
- 3 Wells (Well No. 7, 9, and 10) with a total capacity of 2,850 gpm
- 3 Booster Pump Stations (Gundry, Temple, Hilltop)
- 3 Pressure Regulating Stations (Walnut, Skyline, and Zone 3A)
- 1 Imported Water Connection (CB-19), maximum capacity of 7.5 cfs or 3,366 gpm
- 3 Groundwater Treatment Facilities
- 2 Emergency Interconnections (Lakewood and Long Beach Public Utilities Department)

The City of Signal Hill Water Department operates a system with four (4) pressure zones that distribute water to customers throughout the City limits, which has approximately the same boundary as the City water service area. Primary sources of water to the City are imported water from MWD and groundwater pumped from Central Groundwater Basin through City owned and operated Well No. 7, Well No. 9, and Well No. 10. The City utilizes chloramination to treat water supplies. Water from Well No. 7 and Well No. 10 is treated and then enters the system through the Gundry Reservoir, which acts as a forebay to the rest of the system. Downstream of Gundry Reservoir is Temple Disinfection Station that boosts disinfection residuals inside Temple Reservoir. Well No. 9 water is treated at the site by passing through a 3-stage nano-filtration system followed by a liquid granular activated carbon (LGAC) treatment. Then the water is pumped directly into the system from a clearwell. Imported water enters the system through a pressure regulating station and directly serves Zone 1 of the system. There are two other storage reservoirs, namely Temple Reservoir and Hilltop Reservoir. Water is conveyed through approximately 50 miles of transmission and distribution pipeline to 3,035 customers.


Gundry Reservoir and Pump Station
To MWD Connection
To Well No. 7 and No. 10
Wardlow Rd
405 Fwy
Spring St
Cherry Ave
Walnut Ave
Well No. 9
28th St
Orange Ave
Temple Ave
Willow St
Long Beach Blvd
Atlantic Ave
Burnett St
Hilltop Reservoir and Pump Station
Temple Reservoir and Pump Station
Hill St
Redondo Ave
20th St
Alamitos Ave
19th St
Pacific Coast Hwy
Legend
Well Facility
Reservoir and Pump Station Facility
Pipelines
Pressure Zone I
Pressure Zone II
Pressure Zone III
Pressure Zone IIIA
City of Signal Hill Boundary
N
US Feet
0
1,250
2,500
CITY OF SIGNAL HILL
URBAN WATER MANAGEMENT PLAN
PROJECT NO: 1991987.00
DATE: May 2026
Existing Water System
Figure 3-4

SECTION 4

WATER USE CHARACTERIZATION

4-1 General

This section describes the existing and projected water use in the City of Signal Hill. In 2025, the City served 8 AF or less than 0.5% of its demand with recycled water. Reservoir Park, located in the northwest corner of the City, is the only existing recycled water customer. Recycled water is provided via the Long Beach Public Utilities Department (LBPUD) recycled water system. The remainder of the City is provided with potable water through its potable water system, which is supplied water primarily through groundwater wells drawing from the Central Basin aquifer. The City does also have a connection with MWD that is used to supplement the groundwater supply.

4-2 Historical Production and Purchase Data

The historical production and purchase data is provided in Table 4-1. Total production and purchase averaged about 2,043 acre feet per year (AFY) from 2000 to 2025. Despite the increase in population, the production and purchase amount has declined by about 25 percent since 2013. This can largely be attributed to the implementation of water conservation efforts by the City and the public.

The water use per person has declined from 216 GPCD in 2000 to 126 GPCD in 2025.

Table 4-1
Historical Production and Purchase Data

Calendar Year	Groundwater (AF)	Imported Water (AF)	Production & Purchase (AF)	Population	Water Use (gpcd)[4]
2000	1,991	270	2,261	9,333 [1]	216
2001	2,010	182	2,192	9,572 [1]	204
2002	2,127	155	2,282	9,819 [1]	208
2003	1,998	329	2,327	10,111 [1]	206
2004	2,045	392	2,437	10,397 [1]	209
2005	1,309	1,026	2,334	10,614 [1]	196
2006	5	2,286	2,291	10,741 [1]	190
2007	1,939	399	2,338	10,786 [1]	194
2008	2,033	96	2,129	10,955 [1]	174
2009	2,021	26	2,047	10,988 [1]	166
2010	1,295	634	1,929	11,016 [1]	156
2011	1,862	178	2,041	11,097 [2]	164
2012	2,147	31	2,178	11,214 [2]	173
2013	2,067	161	2,228	11,304 [2]	176
2014	1,356	754	2,110	11,462 [2]	164
2015	1,754	91	1,845	11,597 [2]	142
2016	1,789	0	1,789	11,590 [2]	138
2017	1,222	593	1,815	11,757 [2]	138
2018	1,830	11	1,841	11,733 [2]	140
2019	1,899	3	1,902	11,744 [2]	145
2020	1,860	57	1,918	11,759 [3]	146
2021	1,004	965	1,970	11,795 [3]	149
2022	1,002	867	1,869	11,795 [3]	141
2023	967	762	1,729	11,795 [3]	131
2024	1,177	456	1,633	11,848 [3]	123
2025	716	960	1,677	11,848 [3]	126
Average	**1,593**	**449**	**2,043**	**11,103**	**166**

[1]California Department of Finance Table E-8 Historical Population and Housing Estimates, 2000-2010 Report, by year

[2]California Department of Finance 2020 Table E-5 City/County population and Housing Estimates

[3]City of Signal Hill electronic Annual Report's (eAR) from 2021-2024. 2025 population assumed from the 2024 eAR.

[4]Includes water losses

4-3 Current Potable Water Demands

In 2025, the City's total water demands per billing data was 1,586 AF. The potable water demands by customer class are shown in Table 4-2.

The 2025 production and purchase total was 1,677 AF, therefore the losses are calculated to be 91 AF.

Table 4-2
Demands for Potable and Non-Potable Water – Actual

Submittal Table 4-1 Retail: Total Uses for Potable and Non-Potable Water — Actual **Water Code Section 10631(d)(1)**			
Use Type	Additional Description (as needed)	2025 Actual Water Use	
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUEdata online submittal tool		**Potable or Non-Potable** (OPTIONAL) Drop down list	Volume (AF)
Add additional rows as needed			
Single Family		Potable	350
Multi-Family		Potable	455
Commercial	includes Institutional	Potable	425
Industrial		Potable	121
Landscape		Potable	211
Other (optional)	Non-Residential	Potable	24
Distribution System Water Loss		Potable	91
Landscape	Irrigation	Non-Potable	8
		Subtotal Potable	1,677
		Subtotal Non-Potable	8
		Total	1,685
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES: Water loss for 2025 was calculated by subtracting the total water billed from the total water production and purchase.			

4-4 Projected Potable and Recycled Water Demands

Potable water demands are projected to be 1,919 AF in 2050 as shown in Table 4-3. The projected potable water demands were determined based upon 126 GPCD and the projected population of the future year. The 126 GPCD is what the water use per person was in 2025 (1,677 AFY / 11,848 persons).

Table 4-3
Use for Potable and Non-Potable Water – Projected

Submittal Table 4-2 Retail: Total Uses for Potable, and Non-Potable Water — Projected Water Code Section 10631(d)(1)							
Use Type		**Projected Water Use** (Report To the Extent that Records are Available)					
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the	Additional Description (as needed)	**Potable or Non-Potable** (OPTIONAL) Drop down list	**2030 (AF)**	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 opt (AF)**
Add additional rows as needed.							
Single Family		Potable	350	350	350	350	350
Multi-Family		Potable	502	548	595	641	687
Commercial	includes Institutional	Potable	425	425	425	425	425
Industrial		Potable	120	120	120	120	120
Landscape		Potable	211	211	211	211	211
Other (optional)	Non-Residential	Potable	24	24	24	24	24
Distribution System Water Loss		Potable	91	91	91	91	91
Landscape	Irrigation	Non-Potable	8	8	8	8	8
		Subtotal Potable	1,723	1,769	1,816	1,862	1,909
		Subtotal Non-Potable	8	8	8	8	8
		Total	1,731	1,777	1,824	1,870	1,917
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.							
NOTES: It is assumed that only the multi-family population and water use will increase in the future. Water loss is estimated to be about the same as 2025 for future years.							

4-5 Estimating Future Water Savings

As shown in Section 4-1, the City has seen a 28 percent reduction in per capita water use since 2013 (dropped from 176 GPCD to 126 GPCD). Active and passive savings have contributed to this reduction. Active savings are those that are enacted at the local level, such as rebate programs to promote water use reduction (i.e. toilet replacement and lawn replacement programs). Passive savings are those that result from more global factors, such as increased efficiency standards of system features or new codes and ordinances that limit or reduce water use. Public education has also contributed to water use reduction.

Based on the methodology used to project demand, existing savings from passive conservation measures are accounted for, but no additional passive or active water savings have been included in the demand projections. The City has surpassed its water conservation goals, as described in detail in *Section 5 – SB X7-7 Baselines, Targets, and 2020 Compliance*. Because of this, the City has chosen not to include estimates for future water savings in its demand projections, as noted in Table 4-4. While estimates of future water savings are not included in the projections, the City plans to continue to implement and improve upon its water conservation measures to manage demand over the planning horizon.

Table 4-4
Inclusion in Water Use Projections

Submittal Table 4-3 Retail: Inclusion in Water Use Projections Water Code Section 10631 (a), 10631 (d)(4)(A), and 10631 (d)(4)(B)	
Are Future Water Savings Included in Projections? **Drop down list (y/n)**	No
Are Lower Income Residential Demands Included In Projections? **Drop down list (y/n)**	Yes
DWR NOTES: Additional guidance is provided in Appendix K.	
NOTES:	

4-6 Water Use for Lower Income Households

The City's 2021-2029 Housing Element of the General Plan (2022) cites the SCAG 2024 Regional Transportation Plan (RTP) Forecast which shows an increase of 500 households and 800 jobs between 2019 and 2035. According to State law, SCAG has allocated the City's share of regional housing needs from 2021 to 2029 according to the Regional Housing Needs Assessment (RHNA), which has requirements for each income group. The income groups are defined by income limits, adjusted by household size. The income limits are in comparison to the Los Angeles County median household income, per the City's Housing Element (2022). The City's share is 517 total housing units. The break down of needed housing units by different income groups is shown in Table 4-5. The next iteration of the SCAG RHNA is planned for adoption in 2030. Regional housing needs are consistent with SCAG growth forecasts.

Table 4-5
Needed Housing Units by Income Group

Income Group	Income Limits	Number
Extremely Low	less than 30%	80
Very Low	30% to 50%	81
Low	50% to 80%	78
Moderate	80% to 120%	90
Above Moderate	above 120%	188
	Total	**517**

For this study, the future population projections are based on the SCAG growth forecast. Water demand projections are based upon the population projection and the 2025 water use (GPCD) which includes the current lower income housing units. Therefore, the future water use projections include the lower income residential demands as stated in Table 4-4.

Future water savings are not included in the water use projections. However, it is expected that water reduction efforts that have been made up to this point will continue in a similar manner.

4-7 Distribution System Losses

Water suppliers are required to quantify their distribution system losses using the American Water Works Association method. The physical water losses from the water distribution system and the supplier's storage facilities, up to the point of customer consumption, are defined as real losses. Apparent losses include unauthorized consumption, customer metering inaccuracies, and systematic data handling errors. The total water loss is a combination of real losses and apparent losses.

The City's water loss from fiscal year (FY) 2020-2021 through 2024-2025 is shown in Table 4-6. The table includes verification that each reporting year was submitted to the DWR Water Loss Audit Program, as well as links to the associated Water Use Efficiency (WUE) Data Submissions. The City's latest water loss audit

was completed for FY 2024-2025. Per the validated report, the volume of water loss (apparent loss plus real loss) was 75 AF. This is 4.4 percent of the total water supplied (1,688 AF).

The estimated water loss for calendar year 2025 is 91 AFY based on the difference between the 2025 production and billing quantities. As of the time of this report, the City had not submitted a water loss audit for FY 2025-2026.

4-8 Progress Towards 2028 Water Loss Standard

Retail suppliers are required to report data demonstrating progress towards the established individual system water loss standard. The Water Board calculated a 2028 water loss standard for the City of Signal Hill as 16.0 gallons per service connection per day (gpscd) for real water loss and 7.4 gpscd for apparent water loss. The City met the standard for both real and apparent water loss as shown in Table 4-7.

The City is now transitioning to an Automated Meter Reading (AMR) system utilizing Sensus and Neptune-compatible meters with Sensus SmartPoint wired 520M endpoint radios. In March 2025, a pilot deployment of approximately 100 radios was successfully completed to confirm system compatibility and data integration through the City's FlexNet platform.

The proposed AMR project includes installation of approximately 3,000 endpoint radios, enabling remote meter reading, improved data accuracy, and enhanced system monitoring. This upgrade will reduce reliance on manual meter reading, improve operational efficiency, and support early detection of leaks and abnormal water use, consistent with the City's long-term infrastructure and financial planning objectives. A purchase agreement with Aqua-Metric was issued in March 2026. Delivery of equipment is expected June 2026. City staff will install radios and complete system integration and testing by February 2027.

Table 4-6
Water Loss Audit Reporting

Submittal Table 4-5 Retail: Water Loss Audit Reporting Water Code Section 10631(d)(3)(A)				
Public Water System ID # Reported in Table 2-1 R	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)	Volume of Water Loss (AF)[1]	Link to WUE Data Submissions
Report submittal status for all five years for each Public Water System as available. Add rows as needed				
	2020	Yes	100	https://wuedata.water.ca.gov/secure/uploads/8281842887/20-21%20water%20audit%20workshet%20Updated.xls
	2021	Yes	260	https://wuedata.water.ca.gov/secure/uploads/7172223746/AWWA%20FY%202021-2022%20Water%20Audit.xls
	2022	Yes	215	https://wuedata.water.ca.gov/secure/uploads/5548307120/City%20of%20Signal%20Hill%20FY22-23%20FWAS%20v6.0_release%20version%2020210211.xlsx
	2023	Yes	72	https://wuedata.water.ca.gov/secure/uploads/2422284781/City%20of%20Signal%20Hill%20FY23-24%20FWAS-v6.0-release-version-20210211%20FINAL.xlsx
	2024	Yes	75	https://wuedata.water.ca.gov/secure/uploads/1025510489/City%20of%20Signal%20Hill%202024-25%20Water%20Loss%20Audit%20Report%20V6.0.xlsx
DWR NOTES: Suppliers will provide a link to the WUEdata submittals of their Water Loss Audit Reports.				
NOTES: [1]Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet. Water Loss Audit Reports were submitted by the City in Fiscal Years, so the Reporting Period listed is the starting year (in July) of the FY (Example: Report Period 2020 = FY20-21)				

Table 4-7
Progress Towards 2028 Water Loss Standard

Submittal Table 4-6 Retail: Progress Towards 2028 Water Loss Standard Water Code Section 10631(d)(3)(C)											
		Real Water Loss					Apparent Water Loss				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
Public Water System ID # Reported in Submittal Table 2-1 R	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n) If no, Supplier will not complete this row.	2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss Drop down list	Number of Units (Connections or Miles corresponding with units selected)	Volume of Total Real Loss (from AWWA Water Loss Audit) (AF)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss	Number of Connections	Volume of Total Apparent Loss (from AWWA Water Loss Audit) (AF)	Apparent Water Loss Per Unit per Day
Add additional rows as needed.											
CA1910149	Yes	16	Gallons per Service Connection per Day (GPSCD)	3,035	51	15.0	7.4	Gallons per Service Connection per Day (GPSCD)	3,035	24	7.1
Water Board's Calculated Water Loss Standards											
DWR NOTES: Units of measure (AF, CCF, MG) for Water Loss **MUST** remain consistent with units reported in Submittal Table 2-3. The units reported in Submittal Table 2-3 are used in this table's calculations.											
NOTES: Data is provided from the City of Signal Hill 2024 Water Audit and the Water Board's Calculated Water Loss Standards.											

4-9 Climate Change Considerations

The City's service area is a part of the Greater Los Angeles County (GLAC) Region. The 2013 Integrated Regional Water Management Plan (IRWMP) [IRWMR, 2013], amended in 2017, was developed to define a clear vision and direction for the sustainable management of water resources in the GLAC Region over a 25 year planning horizon. The main objectives of the IRWMP was to reduce the Region's reliance on imported water; comply with water quality regulations by improving the quality of urban runoff, storm water and wastewater; protect, restore, and enhance natural processes and habitats; increase watershed friendly recreational space for all communities; reduce flood risk in flood prone areas; and adapt to and mitigate against climate change vulnerabilities.

Two climate change analysis efforts that were conducted within the GLAC Region are described in the 2013 IRWMP:

1. Climate Change in the Los Angeles Region: Temperature modeling effort led by University of California Los Angeles (UCLA) for a partnership of the Los Angeles Regional Collaborative for Climate Action and Sustainability and the City of Los Angeles to refine climate modeling for the Greater Los Angeles area between 2041 and 2060.
2. Los Angeles Basin Storm Water Conservation Study: A partnership between the US Bureau of Reclamation and the Los Angeles County Flood Control District (LACFCD) to refine climate change projections influenced by localized geographic differences between coastal and inland areas, as well as changes in topography. Goal is to identify potential flooding and supply effects and vulnerabilities.

A summary of the impacts and effects of climate change on the GLAC Region were summarized in the 2013 IRWMP as shown in Table 4-8. Per the 2013 IRWMP, climate change is expected to increase average temperature by at least 3.5 degrees Fahrenheit by mid-century with the number of hot days (with temperatures greater than 95 degrees Fahrenheit) tripling at the coast. This effect is further exacerbated in the inland areas. Precipitation is expected to show little to no change over the next century. Demand is expected to decrease by 1% in gallons per capita per day due to a combination of projected temperature increases and ranges of precipitation. The sea levels are estimated to rise 5 - 24 inches by 2050 (17-66 inches by 2100) along coastal areas in Southern California. The three major imported water supplies feeding the Region are anticipated to have a delivery decrease as a result of climate change.

A list of prioritized vulnerabilities was developed by a Climate Change Subcommittee, which are shown in Table 4-9. The predicted increase in temperatures in the region will likely cause water demands to increase in the future, particularly because potable water is still used for irrigation purposes in the City's service area and recycled water use is not planned to be significantly expanded in the future.

Table 4-8
Impacts and Effects of Climate Change on GLAC Region

Impact to	Effect
Temperature Change	**Coastal LA Basin**: Increases of 3.5 to 4°F (2040-2060) **Inland LA Basin**: Increases of 4 to 4.5°F (2040-2060) **Mountains & Desert**: Increases of 4.5 to 5.5°F (2040-2060) Source: *Walton et al 2015* **Extreme Hot Days:** Number will triple in coastal areas and central Los Angeles, quadruple in San Fernando and San Gabriel Valleys (2040-2060) Source: *Sun et al 2015*
Precipitation	**Across the entire LA Basin:** Median projections show little to no change over the next century (2011-2095) Source: *LA Basin Study Task 3.1*
Demand	Decrease of 1% in gallons per capita per day due to a combination of projected temperature increases and the ranges of precipitation. Source: *LA Basin Study Task 2, Water Supply & Demand Projections*
Imported Supply	**State Water Project:** • Delivery decrease of 7-10% by 2050 • Snowpack decrease of 48-65% (2070-2099) • Delivery decrease of 21-25% by 2100 Source: *DWR 2009* **Colorado River:** • Flows to decrease by 7-9% by 2050 • Shortages to Lower Basin of: o 1 MAF over any 2-year window up to 51% of the time o 1.5 MAF over any 5-year window up to 59% of the time Source: *Reclamation 2012* **Los Angeles Aqueduct:** • Decrease in "base-of-mountain" runoff of approximately 1.7% (2040-2069) • Decrease in "base-of-mountain" runoff of approximately 5.0% (2070-2099) Source: *LADWP UWMP 2011*
Sea Level Rise (along the LA region coastline)	Rise of 5-24 inches by 2050 Rise of 17-66 inches by 2100 Source: *Grifman et al 2013*
Wildfire Risk	**Non–Santa Ana Fires:** Burned area to increase 77% (±43%) (2040-2060). This type of fire will change the most in the future and start to dominate the summer season. **Santa Ana Fires:** Burned area to increase by 64% (±76%) (2040-2060). Source: *Jin et al 2015*
Local Snowpack	Decreases of between 31-42% (2040-2060) Decreases of between 31-66% (2080-2100) Source: *Sun et al 2013*

Reference: The Greater Los Angeles County Integrated Regional Water Management Plan, 2013, Table 2-7

Table 4-9
Prioritized Climate Change Vulnerability Issues

Level	Vulnerability Issue
High	• Decreased ability to meet water conservation goals • Reduced resiliency to drought • Municipal water demand would increase • Decrease in imported water supply (from impacts to Bay-Delta system) • Decrease in coastal groundwater supply • Increase in wildfire risk and erosion and sedimentation which may impact water quality, flood control, and habitat • Damage to coastal infrastructure/recreation/tourism due to sea level rise and storm surge
Medium	• Invasives can reduce water supply available, alter flood regimes, and alter wildfire regimes • Decrease in local surface water supply • Decrease in seasonal water reliability • Increase in nutrient loading and decreased Dissolved Oxygen • Decrease in dilution flows • Decrease in recreational opportunity • Increase in source control or surface water treatment • Decrease in land due to SLR • Increased impacts to habitat and flow availability for species
Low	• Agricultural water demand would decrease • Limited ability to meet higher peaks in water demand (both seasonally and annually) • Habitat water demand would increase • Damage to ecosystem/habitat due to sea level rise • Increases in inland and flash flooding • Decrease in habitat protection against coastal storms • Decrease in hydropower potential

Reference: The Greater Los Angeles County Integrated Regional Water Management Plan, 2013, Table 2-8

SECTION 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

5-1 Introduction

The Water Conservation Act of 2009 (SB X7-7) required urban retail water suppliers to reduce per capita water use by 20 percent by the year 2020. To achieve this goal, retail water suppliers were required to establish a baseline daily per capita water use, calculate a 2020 Compliance Water Use Target, and meet the target by December 31, 2020. Pursuant to Water Code Section 10608.40, retail water suppliers must report their progress toward meeting their urban water use targets as part of each UWMP.

The following sections present the City of Signal Hill's (City) baseline daily per capita water use, calculated in GPCD, and water use targets for 2015 (Interim Water Use Target) and 2020 (Compliance Water Use Target) as required by SB X7-7. Methods for calculating the baseline and targets are presented. The Department of Water Resources (DWR) standardized SB X7-7 Verification Tables that document these calculations are included in Appendix 5-1.

Values are not recalculated in this 2025 UWMP. This section is provided to confirm the City's 2020 compliance status.

5-2 Selected Target Method

The CWC allowed four (4) methods to calculate the 2020 water use reduction target as follows:

- Method 1: Eighty percent (80%) of the water supplier's baseline per capita water use
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses
- Method 3: Ninety-five percent (95%) of the target calculated by the state for its hydrologic region
- Method 4: Subtracts savings from identified practices from the agency's baseline GPCD.

The City selected Method 1 to calculate its 2015 Interim and 2020 Water Use Reduction Targets. The units of measure used in this section, which is consistent with the rest of the report, are shown in Table 5-1.

Table 5-1
Units of Measure in UWMP

SB X7-7 Table 0: Units of Measure Used in UWMP*
Acre Feet
**The unit of measure must be consistent with Table 2-3*
NOTES:

5-3 Baseline Periods

SB X7-7 required that the recycled water use in 2008 dictate whether the agency needed to establish a 10-year or 15-year baseline period range. If the recycled water use was less than 10% of total water deliveries, then a 10-year baseline was used, if not, then a 15-year baseline was used.

As shown in Table 5-2, the City's 2008 recycled water use was only 0.33% of the total water deliveries. Therefore, a 10-year baseline period was utilized. When a 10-year baseline period was used, the criterion was that the time period must end between December 31, 2007 and December 31, 2010. The time period selected for the City was 2000 to 2009

A 5-year baseline was also required to be selected. The CWC defined the maximum 2020 Target as 95% of the 5-year baseline daily per capita water use, except for suppliers at or below a 5-year baseline of 100 GPCD. The criterion for the 5-year baseline period was that the time period must end between December 31, 2007 and December 31, 2010. The time period selected for the City was 2004 to 2008.

Table 5-2
Baseline Period Ranges

SB X7-7 Table-1: Baseline Period Ranges				
Baseline	**Parameter**	**Value**	**Units**	
10- to 15-year baseline period	2008 total water deliveries	2,129	Acre Feet	*[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.*
	2008 total volume of delivered recycled water	7	Acre Feet	
	2008 recycled water as a percent of total deliveries	0.33%	Percent	
	Number of years in baseline period[1, 2]	10	Years	
	Year beginning baseline period range	2000		[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.
	Year ending baseline period range[3]	2009		
5-year baseline period	Number of years in baseline period	5	Years	*[3] The ending year must be between December 31, 2004 and December 31, 2010.*
	Year beginning baseline period range	2004		*[4] The ending year must be between December 31, 2007 and December 31, 2010.*
	Year ending baseline period range[4]	2008		NOTES:

5-4 Service Area Population

The Department of Finance (DOF) data was used to determine baseline and compliance year population (Table 5-3).

Table 5-3
Method for Population Estimates

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population	
☑	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

The City population for the selected 10-year and 5-year baseline periods and for 2015, the compliance year, are shown in Table 5-4.

Table 5-4
Service Area Population

SB X7-7 Table 3: Service Area Population					
Year		Population	Year		Population
10 to 15 Year Baseline Population			5 Year Baseline Population		
Year 1	2000	9,333	Year 1	2004	10,397
Year 2	2001	9,572	Year 2	2005	10,614
Year 3	2002	9,819	Year 3	2006	10,741
Year 4	2003	10,111	Year 4	2007	10,786
Year 5	2004	10,397	Year 5	2008	10,955
Year 6	2005	10,614	2015 Compliance Year Population		
Year 7	2006	10,741	**2015**		11,585
Year 8	2007	10,786	NOTES:		
Year 9	2008	10,955			
Year 10	2009	10,988			

5-5 Gross Water Use

City production and purchase data was used to calculate annual gross water use, as shown in Table 5-5, for the baseline averages and for the compliance year.

The City has two (2) sources of potable water: groundwater from the Central Basin Aquifer and imported water from the MWD. The volume of water entering the distribution system from each water source during the baseline periods are shown in Table 5-6 and Table 5-7.

Table 5-5
Annual Gross Water Use

SB X7-7 Table 4: Annual Gross Water Use *								
Baseline Year		Volume Into Distribution System	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water	Water Delivered for Agricultural Use	Process Water	
10 to 15 Year Baseline - Gross Water Use								
Year 1	2000	2,261			-		-	2,261
Year 2	2001	2,192			-		-	2,192
Year 3	2002	2,282			-		-	2,282
Year 4	2003	2,327			-		-	2,327
Year 5	2004	2,437			-		-	2,437
Year 6	2005	2,334			-		-	2,334
Year 7	2006	2,291			-		-	2,291
Year 8	2007	2,338			-		-	2,338
Year 9	2008	2,129			-		-	2,129
Year 10	2009	2,047			-		-	2,047
10 - 15 year baseline average gross water use								**2,264**
5 Year Baseline - Gross Water Use								
Year 1	2004	2,437			-		-	2,437
Year 2	2005	2,334			-		-	2,334
Year 3	2006	2,291			-		-	2,291
Year 4	2007	2,338			-		-	2,338
Year 5	2008	2,129			-		-	2,129
5 year baseline average gross water use								**2,306**
2015 Compliance Year - Gross Water Use								
2015		1,845	-		-		-	**1,845**
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								
NOTES:								

Table 5-6
Volume Entering the Distribution System – Imported Water

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)				
Name of Source	Metropolitan Water District of Southern California			
This water source is:				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year		**Volume Entering Distribution System**	**Meter Error Adjustment* *Optional* (+/-)**	**Corrected Volume Entering Distribution System**
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2000	270		270
Year 2	2001	182		182
Year 3	2002	155		155
Year 4	2003	329		329
Year 5	2004	392		392
Year 6	2005	1,026		1,026
Year 7	2006	2,286		2,286
Year 8	2007	399		399
Year 9	2008	96		96
Year 10	2009	26		26
Year 11	0	-		-
Year 12	0	-		-
Year 13	0	-		-
Year 14	0	-		-
Year 15	0	-		-
5 Year Baseline - Water into Distribution System				
Year 1	2004	392		392
Year 2	2005	1,026		1,026
Year 3	2006	2,286		2,286
Year 4	2007	399		399
Year 5	2008	96		96
2015 Compliance Year - Water into Distribution System				
2015		91		91
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

Table 5-7
Volume Entering the Distribution System – Groundwater

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)				
Name of Source		Groundwater from the Central Basin Aquifer		
This water source is:				
☑	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year		**Volume Entering Distribution System**	**Meter Error Adjustment* *Optional* (+/-)**	**Corrected Volume Entering Distribution System**
10 to 15 Year Baseline - Water into Distribution System				
Year 1	2000	1,991		1,991
Year 2	2001	2,010		2,010
Year 3	2002	2,127		2,127
Year 4	2003	1,998		1,998
Year 5	2004	2,045		2,045
Year 6	2005	1,309		1,309
Year 7	2006	5		5
Year 8	2007	1,939		1,939
Year 9	2008	2,033		2,033
Year 10	2009	2,021		2,021
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2004	2,045		2,045
Year 2	2005	1,309		1,309
Year 3	2006	5		5
Year 4	2007	1,939		1,939
Year 5	2008	2,033		2,033
2015 Compliance Year - Water into Distribution System				
2015		1,754		1,754
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

5-6 Baseline Daily per Capita Water Use

Using the annual gross water use, the service population, and Method 1 with a 10-year base period of 2000 to 2009, the City's average baseline water use was 196 GPCD as shown in SB X7-7 Table 5-8 and Table 5-9. With a 5-year base period of 2004 to 2008, the City's average baseline water use was 193 GPCD. The 2015 compliance year average water use was 142 GPCD.

Table 5-8
Gallons per Capita per Day (GPCD)

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year		**Service Area Population**	**Annual Gross Water Use**	**Daily Per Capita Water Use (GPCD)**
10 to 15 Year Baseline GPCD				
Year 1	2000	9,333	2,261	216
Year 2	2001	9,572	2,192	204
Year 3	2002	9,819	2,282	208
Year 4	2003	10,111	2,327	205
Year 5	2004	10,397	2,437	209
Year 6	2005	10,614	2,334	196
Year 7	2006	10,741	2,291	190
Year 8	2007	10,786	2,338	193
Year 9	2008	10,955	2,129	174
Year 10	2009	10,988	2,047	166
10-15 Year Average Baseline GPCD				**196**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2004	10,397	2,437	209
Year 2	2005	10,614	2,334	196
Year 3	2006	10,741	2,291	190
Year 4	2007	10,786	2,338	193
Year 5	2008	10,955	2,129	174
5 Year Average Baseline GPCD				**193**
2015 Compliance Year GPCD				
2015		11,585	1,845	**142**
NOTES:				

Table 5-9
Gallons per Capita per Day Summary

SB X7-7 Table 6: Gallons per Capita per Day	
10-15 Year Baseline GPCD	196
5 Year Baseline GPCD	193
2015 Compliance Year GPCD	142
NOTES:	

5-7 2015 and 2020 Target Compliance

Per Table 5-10, the City selected to use Method 1 (eighty percent [80%] of the water supplier's baseline per capita water use) to calculate its 2015 Interim and 2020 Water Use Reduction Targets.

The Maximum 2020 Water Use Target, shown in Table 5-12, is 95% of the 5-year baseline or 183 GPCD. This was only considered the 2020 Target if the calculated 5-year baseline was above 100 GPCD, otherwise it was not applicable. The calculated water use target, per Method 1 was 80% of the baseline or 157 GPCD. The confirmed water use target was the smaller of the maximum and the calculated water use target. Therefore, the City's Confirmed 2020 Water Use Target was 157 GPCD.

The City's 2015 Interim Water Use Target was halfway between the average baseline water use and the 2020 Water Use Target or 177 GPCD, as shown in 5-13.

Table 5-10
2020 Target Method

SB X7-7 Table 7: 2020 Target Method		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
NOTES:		

Table 5-11
Target Method 1

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
196	**157**
NOTES:	

Table 5-12
Confirm Minimum Reduction for 2020 Target

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD	**Maximum 2020 Target[1]**	**Calculated 2020 Target[2]**	**Confirmed 2020 Target**
193	183	157	**157**
[1] Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD. *[2] 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.*			
NOTES:			

Table 5-13
2015 Interim Target (GPCD)

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target	10-15 year Baseline GPCD	2015 Interim Target GPCD
157	196	**177**
NOTES:		

The water use baselines and targets are summarized in Table 5-14.

Table 5-14
Baselines and Targets Summary

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form					
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Interim 2015 Target*	Confirmed 2020 Target*
10-15 year	2000	2009	196	177	157
5 Year	2004	2008	193		
**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*					
NOTES:					

5-8 2020 Compliance Daily Per Capita Water Use

The CWC mandated that retail water suppliers meet their Water Use Target by December 31, 2020. In 2020, the City's gross water use was 1,860 AF for a service are population estimated at 11,759. Therefore, the City's actual 2020 per capita water use was 146 GPCD which is approximately 7.0 percent below its Confirmed Water Use Target of 157 GPCD. The City's compliance with the 2020 Confirmed Target is summarized in Table 5-15. No adjustments using weather normalization, economic adjustment, or extraordinary events were applied to the GPCD.

Table 5-15
2020 Compliance

Submittal Table 5-1 Retail: SB X7-7 2020 Target Progress Water Code Section 10608.40						
Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target? Drop down list	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	**Only for suppliers that did not meet the Target in 2020 See DWR NOTES below.**	
					Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Regional Alliance Target	157	146	Yes		NA
NOTES:						

SECTION 6

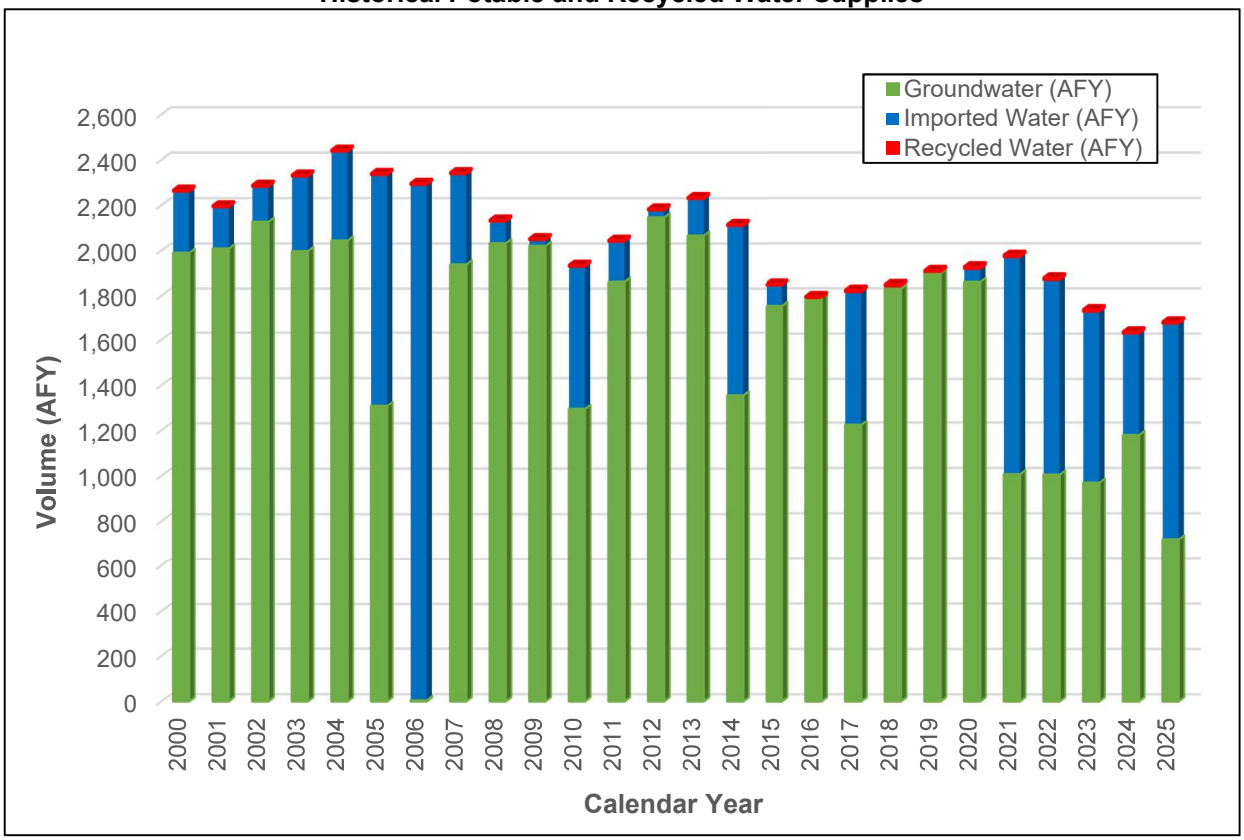
WATER SUPPLY CHARACTERIZATION

6-1 Introduction

This section describes the existing and future water sources available to the City of Signal Hill, their limitations, water quality, and exchange opportunities. The City's goal is to maximize the use of local sources in order to provide a reliable supply for the existing and planned development within its service area.

The City's water supply sources include groundwater, imported water, and recycled water. Historically, the City imports about 18 percent of its potable water supply and the remaining 82 percent is groundwater. There is currently only one customer served recycled water in the City, which is the Reservoir Park. The historical water supplies from each source are shown in Figure 6-1 from calendar year 2000 to 2025. On average, 1,593 AFY of groundwater was produced and 449 AFY of imported water was purchased. The amount of recycled water used was about 8 AFY. The peak total supply was 2,444 AF in 2004. The peak amount of imported water purchased was 2,286 AF in 2006.

Figure 6-1
Historical Potable and Recycled Water Supplies



6-2 Imported Water

The City has one connection with CBMWD, a water wholesaler to local water agencies. CBMWD purchases imported water from MWD and sells it directly to retail agencies like the City. The City's connection to CBMWD, Central Basin-19 (CB-19), is located in Bixby Road near Gaviota Street. It has the capacity to provide up to 3,300 gallons per minute (gpm) of imported water to the City's potable water system.

Imported water is typically utilized to meet the peak demands during the warm summer months. The CBMWD connection is a backup supply to Well No. 7, Well No. 9, and Well No. 10. As the capacity of these three wells decreases, the amount of imported water is increased.

6-3 Groundwater

6-3.1 Central Basin

The City is one of 24 incorporated cities and several unincorporated communities that draw water from Central Basin which provides a substantial portion of the water supply needed by the residents, businesses, and industries in the area overlying the basin.

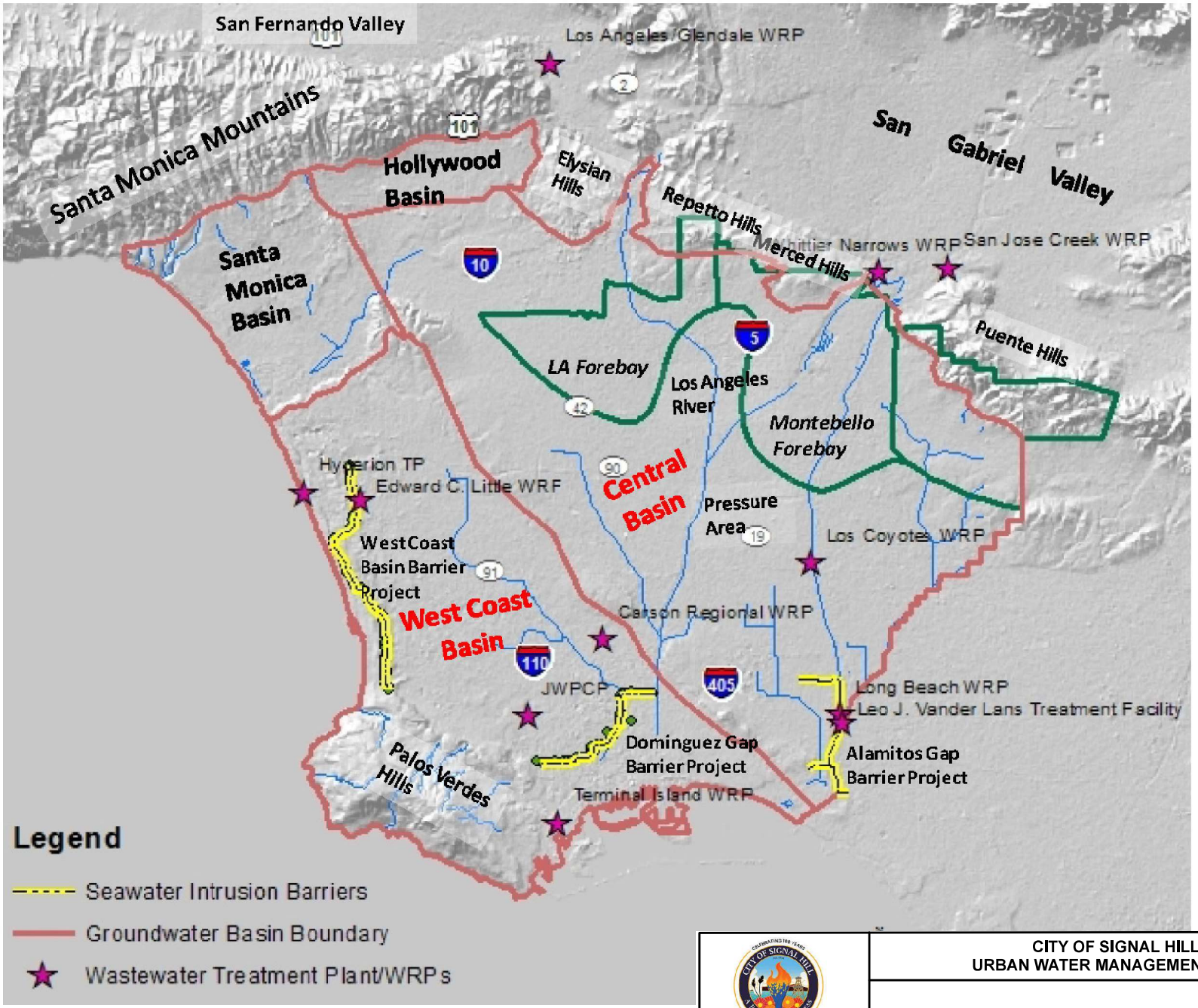
Central Basin is technically a large subbasin occupying the southeastern portion of the larger Coastal Plain of Los Angeles Groundwater Basin, but is managed separately, as discussed in Section 5.2.2 DWR Bulletin 118 designates the Central Basin as Groundwater Basin Number 4-11.04. The Central Basin Aquifer boundaries are shown on Figure 6-1. It is bounded by the Hollywood Basin and the Elysian, Repetto, Merced, and Puente Hills; to the east by the Los Angeles/Orange County line; and to the south and west by the Newport-Inglewood Uplift, a series of discontinuous faults and folds that form a prominent line of northwest-trending hills including the Baldwin Hills, Dominguez Hills, and Signal Hill. [WRD, 2016]

Throughout the Central Basin, groundwater occurs in Holocene and Pleistocene age sediments at relatively shallow depths. There are two forebays of unconfined groundwater conditions and relatively interconnected aquifers that provide recharge to the Central Basin. The Los Angeles Forebay is located where the Los Angeles River passes through the Los Angeles Narrows and enters the Central Basin. The Montebello Forebay extends southward from the Whittier Narrows where the San Gabriel River enters the Central Basin. Due to a large degree of development and paving in the Los Angeles Forebay, most recharge occurs in the Montebello Forebay.

The pressure area of the Central Basin contains many aquifers that are mostly confined, through semi-permeable aquicludes allow for some flow between aquifers.

6-3.2 Central Basin Judgment

Following the introduction of the deep-well turbine pump in 1909, groundwater extraction increased dramatically along with the population boom and growth in industry and agriculture in the Southern California area. The groundwater demand exceeded the natural replenishment of Central Basin, causing a depletion of the aquifer. Water levels decreased to such low levels that the basin was subjected to sea water intrusion.



Reference: Groundwater Basins Master Plan, Water Replenishment District of Southern California, September 2016

CITY OF SIGNAL HILL
URBAN WATER MANAGEMENT PLAN

Central Basin Aquifer

DATE: May 2026

Figure 6-2

The Central and West Basin Water Replenishment District (CWBWRD) was formed in 1959, known today as the Water Replenishment District of Southern California (WRD). Its objective is to replenish and maintain the groundwater basins by purchasing imported water, recharging the basins, and halting sea water intrusion. In 1962, CWBWRD filed a case in the California Superior Court to obtain title to rights to the use of groundwater, to secure judicial definition of each right as against each and every right involved, and to regulate withdrawals from the basin to protect the water supply from deteriorating. The final Judgment became effective on October 1, 1966. At that time, the Department of Water Resources was appointed the Watermaster. Since its inception, the Judgment has been amended three times. A copy of the third amended judgement can be found in Appendix 6-1 [CA, 2013].

The Judgment establishes adjudicated rights totaling 267,900 AFY but limits pumping to an Allowable Pumping Allocation (APA) of approximately 80 percent of this amount, which is equivalent to 217,367 AFY. Both amounts exceed the natural yield of the basin, and the judgment recognizes that WRD artificially replenishes the basin to make up the difference. [WRD, 2016]

The City's APA is set at 2,022 acre feet per year (AFY). To provide flexibility with regard to groundwater extractions, the Judgment contains provisions, such as the following [WRD, 2025]:

- Carryover: Parties are allowed to carryover up to the greater of
  - 60% of their APA, plus or minus any leases with flex or 20 AF, whichever is more, less the amount of water in a Party's storage account;
  - 20% of their APA, plus or minus any leases with flex

  This will help to meet any unforeseen water demands. Unused Exchange Pool water is carried over into the following fiscal year as well.
- Storage: Parties with water rights are allowed to store water in the Basin for later extraction. Both one-year and current AFY carryover can be converted into storage.
- Regional Disadvantaged Communities Incentive Program (RDCIP): 23,000 AF of storage is allocated for the use or benefit of Disadvantage Communities (DAC) within Central Basin.
- Overextractions: Parties with carryover and/or storage rights are allowed to extract up to 140% of the sum of their APA plus or minus (+/-) leased water rights.
- Allowed Pumping Allocation Transfers: Parties are able to lease and sell their pumping rights. Terms of the leases and sales vary. All leases must be made on an administrative year basis.
- Exchange Pool: Parties who have excess water can make their pumping rights available to pumpers who are without sufficient water.

A copy of the Groundwater Basins Master Plan published by the WRD of Southern California can be found in Appendix 6-2. A copy of the 2024-2025 Watermaster Service in the Central Basin summary report can be found in Appendix 6-3.

6-3.3 Watermaster

The latest Amended Judgment was entered on December 23, 2013. This amendment allows for water rights holders to have direct input into how the Judgment is administered and enforced. It confirms the retirement of DWR as the Watermaster and mandates the creation of a new Watermaster with three separate bodies serving different functions:

1. WRD is appointed as the Administrative Body to assist the Court in the administration and enforcement of the provisions of the Judgment and fulfill the Watermaster accounting and reporting functions
2. The Water Rights Panel is made up of seven Central Basin water rights holders. The panel enforces issues related to pumping rights within the adjudication.
3. The Storage Panel is composed of the Water Rights Panel and the WRD Board of Directors, which together review and approve storage projects within the basin.

WRD in coordination with other basin stakeholders developed a Groundwater Basins Master Plan (GBMP). The intent of the document was to provide a single reference for parties operating within and maintaining the West Coast and Central groundwater basins. It is a guide that will help stakeholders develop and assess initial concepts for additional recharge and pumping from the basins to utilize the basins fully and reduce dependence on imported water. [WRD, 2016]

6-3.4 Groundwater Levels and Monitoring

WRD tracks groundwater levels throughout the year by measuring the depth to water in monitoring wells and production wells located throughout the basin. There are automatic data-logging equipment at most of the nested monitoring wells to collect data more frequently. Pumpers in the basin also provide WRD water level data.

Monitoring of groundwater levels can help in assessing the following:

- The amount of groundwater in the basin
- The areas of recharge and discharge from the basin
- The direction the groundwater is moving in the basin
- When replenishment water is needed
- Groundwater storage changes
- Source areas and pathways for seawater intrusion
- Effectiveness of seawater barrier injection wells

In water year 2024-2025, the Central Basin and West Coast Basin (CBWCB) water levels decreased due to well below normal precipitation. The Montebello Forebay decreased just over 16 feet. The Los Angeles Forebay water levels decreased an average of 1.8 feet, Whittier Area decreased an average of 6.3 feet, and the Central Basin Pressure Area experienced an average decrease of 9.3 feet. The West Coast Basin had the least amount of change, with water levels increasing an average of 1.6 feet; however, this increase was artificially influenced by temporary reduction in refinery pumping just before the annual water level measurements were taken. Over the entire WRD service area, water levels decreased and average of 3.9 feet. This lead to an overall decrease in groundwater storage of 80,900 AF. [WRD, 2026a]

WRD will continue to replenish with recycled water and continue to monitor groundwater levels in the CBWCB. It is anticipated that there will continue to be sufficient supplies of safe and reliable groundwater to meet the demands of the pumpers in the service area in the ensuing years. [WRD, 2026a]

6-3.5 Groundwater Recharge and Reliability

Natural replenishment of groundwater in the Central Basin occurs largely from surface flow and underflow through Whittier Narrows from the San Gabriel Valley. Intentional replenishment of groundwater is accomplished by capturing and spreading river water at the Rio Hondo and the San Gabriel River Coastal Spreading Grounds in the Montebello Forebay. Historically, sources of replenishment water are local storm runoff, local dry-weather urban runoff, imported water purchased from MWD, and recycled water purchased from the Los Angeles County Sanitation District (LACSD). The sources and quantities of water spread to replenish the groundwater for the 2023-2024 AY and 2024-2025 AY are shown in Table 6-1. WRD purchased zero imported water for spreading for the sixth consecutive year. [WRD, 2025] WRD became completely locally sustainable in 2019 due to the completion of the Albert Robles Center for Water Recycling and Environmental Learning (ARC), located in the City of Pico Rivera. Water from the LACSD San Jose Creek Water Reclamation Plant (SJCWRP) is diverted to the ARC for further treatment. Approximately 13,000 AF (4.23 billion gallons) of tertiary treated water (recycled) is treated annually to near-distilled levels through an advanced water treatment facility. Together, with another 14,000 AF (4.6 billion gallons) of recycled water, WRD delivers 27,000 AF of water to the San Gabriel Coastal Spreading Grounds where it percolates into the Central Basin.

Table 6-1
Central Basin Groundwater Recharge Supply Summary

Supply Source	2023-2024 (AFY)	2024-2025 (AFY)
Local Runoff	146,060	29,360
MWD Untreated Tier 1 Water Purchased by WRD	0	0
Make-Up Water from Upper San Gabriel Basin	0	0
Recycled Water		
Whittier Narrows Water Reclamation Plant	8,278	8,693
San Jose Water Reclmation Plant	33,268	43,871
Pomona Water Reclamation Plant	2,931	2,890
Advanced Treated Water		
Albert Robles Center Advanced Water Treatment Plant	7,722	10,124
Total	**198,259**	**94,938**

Source: Watermaster Service in the Central Basin – Los Angeles County, July 1, 2024 - June 30, 2025

6-3.6 Groundwater Quality

WRD publishes an annual Regional Groundwater Monitoring Report for the Central and West Coast Basins. Per the March 2026 report, the groundwater quality in Central Basin "remains very good, with only some areas facing poor water quality from natural or anthropogenic sources that WRD staff continue to monitor closely to evaluate increasing or decreasing trends." In order to make this assessment, WRD collected over 600 water samples from its monitoring well network and analyzed them for more than 100 water quality constituents to produce over 60,000 data points to help track the water quality in the CBWCB [WRD, 2026b]

WRD used 13 key nested monitoring wells to track salt and nutrient water quality trends throughout the District and in the most critical areas of the basins, including areas near groundwater recharge projects that utilize recycled water. Overall, salt and nutrient concentrations in groundwater are "generally stable, and although a few individual well zones show increasing trends, a comparable number show decreasing trends."

Beginning in water year 2018-2019 and ending in water year 2019-2020, WRD completed a District-wide assessment for the presence of polyfluoroalkyl substance (PFAS) constituents in WRD nested monitoring

wells and production wells. Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) detections in Central Basin are generally restricted to the vicinity of the Montebello Forebay. They occur within the Montebello Forebay, immediately adjacent and to its west, as well as downgradient along the Los Angeles and San Gabriel Rivers.

Due to the quality of the groundwater in the basin, minimal water treatment occurs prior to entering the potable water system. The City disinfects the groundwater by means of chloramination to promote greater ease of blending with the imported water, which is chloraminated as well.

Sea water intrusion in the Alamitos Gap near the mouth of the San Gabriel River poses a threat to the groundwater in the basin. The Alamitos Gap Barrier Project (see Figure 6-1), operated by the LACDPW, is made up of 43 injection wells that are designed to prevent sea water intrusion into the basin by creating a groundwater pressure ridge. The project also includes 220 observation wells used to monitor groundwater levels and quality.

6-3.7 Historical Groundwater Production

The City currently utilizes three (3) wells that draw water from the Central Basin aquifer. The newest well, Well No. 10, came online in September 2025. The volume of water that the City has pumped from Central Basin between 2021 and 2025 is shown in Table 6-2.

Table 6-2
Groundwater Volume Pumped

Submittal Table 6-1 Retail: Groundwater Volume Pumped **Water Code Section 10631(4) and 10631(4)(c)**							
Groundwater Type **Drop Down List** May use each category multiple times	Potable or Non-Potable (OPTIONAL) **Drop down list**	Location or Basin Name	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Add additional rows as needed							
Fractured Rock	Potable	Central Basin	1004	1002	845	1162	705
		Total	1,004	1,002	845	1,162	705
NOTES: Groundwater production data are sourced from the EAR/SAFER reports for 2021-2025 reported in Calendar Years.							

6-4 Surface Water

The City currently does not utilize surface water as a source of supply and has no plans to do so as of the development of this UWMP.

6-5 Stormwater

The City currently does not utilize stormwater as a source of supply and has no plans to do so as of the development of this UWMP.

6-6 Wastewater and Recycled Water

6-6.1 Wastewater Collection, Treatment, and Disposal

The wastewater collection system providing service to the City's water service area is owned and maintained by the Sanitation Districts of Los Angeles County (SDLAC). The City's sewage is conveyed by gravity to one of two SDLAC facilities: the Joint Water Pollution Control Plant (JWPCP) in the City of Carson to the east or the Long Beach Water Reclamation Plant (LBWRP) in the City of Long Beach to the west.

The wastewater flow generated within the City is not continuously monitored or measured. SDLAC estimates the wastewater generation based on population, per capita generation rates, and permitted industrial flow rates. As shown in Table 6-3, the total average wastewater generation estimated with the use of SDLAC methods for 2000, 2015, 2020 and 2025 are 2.25 mgd, 1.90 mgd, 1.82 mgd, and 0.87 mgd respectively. The large decrease in wastewater generation from 2020 to 2025 is due to the decrease in industrial flow.

Table 6-3
City of Signal Hill Wastewater Generation by SDLAC Factors

Year	City of Signal Hill Population[1]	Wastewater Generation Rate (gpcd)[2]	Population Flow (mgd)[3]	Industrial Flow (mgd)[4]	Total Average Wastewater Generation (mgd)[5]	Total Average Wastewater Generation (AFY)
2000	9,333	87.8	0.82	1.43	2.25	2,519
2015	11,585	66.1	0.77	1.13	1.90	2,123
2020	11,712	60.8	0.71	1.11	1.82	2,041
2025	11,421	65.3	0.75	0.12	0.87	970

[1] *Ref: California Department of Finance, Table E-5*
[2] *Rates provided by Sanitation District of Los Angeles County*
[3] *Population Flow = Population x Wastewater Generation Rate*
[4] *Industrial Flow provided by Sanitation District of Los Angeles County*
[5] *Total Average Wastewater Generation = Population Flow + Industrial Flow*

The wastewater collected within the City's service area in 2025 is estimated at 970 AFY (Table 6-4). The wastewater generated within the City of Signal Hill is not treated or disposed of within the City's service area (Table 6-5).

Table 6-4
Wastewater Collected Within Service Area in 2025

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area Water Code Section 10633(a)				
☐	Check the box if there is no wastewater collection system. Proceed to the next table.			
100%	Percentage of 2025 service area served by wastewater collection system (OPTIONAL)			
100%	Percentage of 2025 service area population served by wastewater collection system (OPTIONAL)			
Wastewater Collection			**Recipient of Collected Wastewater**	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? OPTIONAL **Drop Down List**	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number **Drop down list**	Is WWTP Located Within UWMP Area? **Drop Down List**
Add additional rows as needed				
Sanitation District of Los Angeles County	Estimated	970	Long Beach WRP, Place ID 238562	No
Total Wastewater Received from UWMP Service Area in 2025:		970		
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3. **Additional Guidance**: See Appendix M, Section M.21 for detailed guidance on this table.				
NOTES: Wastewater volume estimated by the Sanitation Districts of Los Angeles County, using a per capital generation (65.3 gpd) and permitted industrial waste flows. A portion of the wastewater collected in the City of Signal Hill is conveyed to the Long Beach Water Reclamation Plant and a portion is conveyed to the Joint Water Pollution Control Plant.				

Table 6-5
Wastewater Treatment and Discharge within Service Area in 2025

Submittal Table 6-3 Retail: Wastewater Treatment and Outcomes Within UWMP Service Area Water Code Section 10633(b)	
☑	**Check the box if no wastewater is treated or disposed of within the UWMP service area.** Proceed to the next table.

6-6.2 Recycled Water Use

The City of Long Beach owns all the rights to effluent from the LBWRP per a 1968 agreement with SDLAC. The effluent is either utilized in the Long Beach Public Utility Department's (LBPUD) recycled water system, delivered to the Leo J. Vander Lans Advanced Water Treatment Facility for use by the Alamitos Seawater Intrusion Barrier wells, or discharged to the Coyote Creek Outfall. Wastewater sent to the JWPCP is treated and sent to the Pacific Ocean.

Historically, Reservoir Park was the only property utilizing recycled water. A recycled water agreement was reestablished in October 2017 between the City and LBPUD that extends for 25 years, expiring in 2042.

This agreement establishes a provision for the City to use recycled water at Reservoir Park on an interruptible basis, meaning it is based on the condition that sufficient water is available after satisfying LBPUD's customers' needs. The City is under no obligation to purchase a minimum amount of recycled water. [LBWD, 2017]

The 2025 recycled water use and the future projected water use is shown in Table 6-6. The 2025 recycled water use is 8 AFY, based upon Reservoir Park billing data. Though there are no immediate plans to increase recycled water use, the City will continue to look for opportunities to expand the use of recycled water in the future.

Table 6-6
Recycled Water Direct Beneficial Uses within Service Area

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area **Water Code Section 10633 (c),(d),(e)**										
Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL) :			Sanitation District of Los Angeles County							
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL) :			Long Beach Public Utilities Department							
Volume of Supplemental Water Added in 2025 (OPTIONAL) :			None							
Source of 2025 Supplemental Water (OPTIONAL) :			N/A							
Use Type **Drop down list**	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop down list	Additional Information (as needed)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)	**Potential Recycled Water Use** Volume	**Potential Recycled Water Use** Narrative page number (OPTIONAL)
Add additional rows as needed										
Landscape irrigation (exc golf courses)	Non-Potable	Park	8	10	10	10	10	10	10	P. 6-11 to 6-12
		Subtotal Potable	0	0	0	0	0	0	0	
		Subtotal Non-Potable	8	10	10	10	10	10	10	
		Total	8	10	10	10	10	10	10	
NOTES: Reservoir Park is the only existing recycled water customer. The existing demand is based off recent billing data. Future projections are based on average use between 2017-2025. The average is used because the recycled water use has been declining. Historically, the City provided 10 AF of reclaimed water in 2020 and therefore it is known that this volume can be provided.										

Table 6-7
2020 UWMP Recycled Water Use Projection Compared to 2025 Actual

Submittal Table 6-5 Retail: 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual Water Code Section 10633(e)		
Use Type Drop Down list	2020 Projection for 2025 (AF)	2025 Actual Use (AF)
Add additional rows as needed		
Landscape irrigation (exc golf courses)	10	8
Total	10	8
NOTES: Reservoir Park is the only existing recycled water customer. The existing demand is based off of recent billing data.		

Table 6-8
Methods to Encourage Future Recycled Water Use

Submittal Table 6-6 Retail: Methods to Encourage Future Recycled Water Use Water Code Section 10633(f)	
☑	Check the box if the Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.
P. 6-11 to 6-12	Provide page location of narrative in the UWMP
NOTES:	

6-7 Desalinated Water Opportunities

There are no plans for the City to pursue desalination activities.

6-8 Exchanges or Transfers

The City maintains a connection to the City of Long Beach potable water system; however, it has not been exercised in some time and is not metered.

Other efforts include establishing a better means of obtaining additional water resources through the establishment of future active interconnections that would be less costly than the City's singular interconnection. The City of Signal Hill has engaged with the City of Long Beach and is actively working with the Public Utilities Department to establish a permanent active interconnection for potable water.

6-9 Future Water Projects

There are no expected future water supply projects or programs planned that would provide a quantifiable increase to the City's water supply.

Table 6-9
Expected Future Water Supply Projects or Programs

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs Water Code Section 10631(f)	
☑	Check the box if there are no expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Proceed to the next table.

6-10 Summary of Existing and Planned Sources of Water

Currently, in 2025, the City utilizes three (3) water sources: imported water, groundwater, and recycled water. Information on the actual water supplied to the City in 2025 is shown in Table 6-10. The City of Signal Hill's Allowed Pumping Allocation (APA) is 2,022 AFY in the Central Basin.

Table 6-10
Water Supplies – Actual

Submittal Table 6-8 Retail: Water Supplies — Actual Water Code Section 10631(b)				
Water Supply		**2025**		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Actual Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed				
Purchased or Imported Water	Central Basin Municipal Water District CENB-19	Potable	960	
Groundwater (not desalinated)	Central Basin Aquifer	Potable	716	2,022
Recycled Water	Long Beach Water Department (LBWD)	Non-Potable	8	
		Subtotal Potable	1,676	2,022
		Subtotal Non-Potable	8	0
		Total	1,684	2,022
NOTES: The City has an allowable Pumping Allocation (APA) from Central Groundwater Basin of 2,022 AFY.				

The City's historical groundwater rights, average annual carryover and storage, shown in Table 6-11 were extracted from the annual reports published by WRD, the Central Basin Watermaster. The City's existing APA is 2,022 AF. The average carryover of water rights over the past 10 years is 1,921 AF.

The City's imported water connection has a capacity of up to 3,300 gpm but historically, the highest amount of imported water utilized was about 2,300 AF, which is utilized to calculate the total reasonably available volume.

Table 6-11
Historical Groundwater Rights, Leases, and Carryover

Fiscal Year	Allowable Pumping Allocation (AF)	Net Carryover from Previous Year (AF)	Leases w/o Flex (AF)	Total Ground water Rights (AF)	Amount Pumped (AF)	Balance (AF)	DCO 91	Normal Carryover (AF)	Total Carryover (AF)
2005-2006	2022.00	87.10		2109.10	404.18	229.92		229.92	229.92
2006-2007	2022.00	229.92		2251.92	822.66	1429.26		404.40	404.40
2007-2008	2022.00	404.40		2426.40	2121.76	304.64		304.64	304.64
2008-2009	2022.00	304.64		2326.64	2006.79	319.85		319.85	319.85
2009-2010	2022.00	319.85		2341.85	1835.10	506.75		404.40	404.40
2010-2011	2022.00	404.40		2426.40	1263.63	1162.77		404.40	404.40
2011-2012	2022.00	404.40		2426.40	2118.93	307.47		307.47	307.47
2012-2013	2022.00	1015.17		3037.17	2185.65	851.52	707.70	143.82	851.52
2013-2014	2022.00	851.52	-140.00	2733.52	1611.95	1121.57	707.70	413.87	1121.57
2014-2015	2022.00	1121.57		3143.57	1643.22	1500.35	707.70	792.65	1500.35
2015-2016	2022.00	1500.35	-100.00	3422.35	1708.85	1713.50	707.70	1005.80	1713.50
2016-2017	2022.00	1713.50		3735.50	1512.48	2223.02	707.70	1213.20	1920.90
2017-2018	2022.00	1920.90		3942.90	1834.83	2108.07	707.70	1213.20	1920.90
2018-2019	2022.00	1920.90		3942.90	1841.18	2101.72	707.70	1213.20	1920.90
2019-2020	2022.00	1920.90		3942.90	1907.87	2035.03	707.70	1213.20	1920.90
2020-2021	2022.00	1920.90		3942.90	1595.74	2347.16	707.70	1213.20	1920.90
2021-2022	2022.00	1920.90		3942.90	991.04	2951.86	707.70	1213.20	1920.90
2022-2023	2022.00	1920.90		3942.90	722.60	3220.30	707.70	1213.20	1920.90
2023-2024	2022.00	1920.90		3942.90	1362.86	2580.04	707.70	1213.20	1920.90
2024-2025	2022.00	1920.90		3942.90	875.27	3067.63	707.70	1213.20	1920.90
			Minimum	**2109.10**	**404.18**	**229.92**	**707.70**	**143.82**	**229.92**
			Average	**3196.20**	**1518.33**	**1604.12**	**707.70**	**782.50**	**1242.51**
			Maximum	**3942.90**	**2185.65**	**3220.30**	**707.70**	**1213.20**	**1920.90**

The reasonably available volume for 2030 through 2050 is estimated as follows:

Reasonably Available Volume = 2,022 AF (APA)

+ 2,300 AF (Imported Water)

= 4,322 AF

The City's supply projections are provided in Table 6-12.

Table 6-12
Water Supplies – Projected

Submittal Table 6-9 Retail: Water Supplies — Projected
Water Code Section 10631 (b)

Water Supply			Projected Water Supply (Report to the Extent Practicable)									
			2030		2035		2040		2045		2050 (opt)	
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed												
Purchased or Imported Water	Central Basin Municipal Water District CENB-19	Potable	2,300		2,300		2,300		2,300		2,300	
Groundwater (not desalinated)	Central Basin Aquifer	Potable	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022
Recycled Water	Long Beach Water Department (LBWD)	Non-Potable	10		10		10		10		10	
		Subtotal Potable	4,322	2,022	4,322	2,022	4,322	2,022	4,322	2,022	4,322	2,022
		Subtotal Non-Potable	10	0	10	0	10	0	10	0	10	0
		Total	4,332	2,022	4,332	2,022	4,332	2,022	4,332	2,022	4,332	2,022

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.
Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES: CBMWD Connection CENB-10 has a capacity of up to 3,300 gpm (4.75 mgd; 5,322 AFY). Historically, the highest amount of imported water was utilized in 2006 when the City used 2,286 AF of imported water. Groundwater available volume = APA of 2,022 AFY.

6-11 Climate Change Impacts to Supply (Optional)

Climate change impacts have already started to create critical challenges for water resources management in Southern California. More intense storm events and the changing frequency and duration of drought years are becoming evident throughout the State and the western United States. This makes future water supplies available to the region more uncertain, particularly imported water resources that are uniquely vulnerable to the changes in the state's snowpack.

The *City of Long Beach Climate Resiliency Assessment Report Appendices* prepared by the Aquarium of the Pacific [AP, 2015] discusses how climate changes will likely decrease the imported water supply availability to the Southern California area, potentially leaving agencies in a water shortage condition. The impacts of climate change are described as follows:

> *"Climate models project an increase from today's average surface temperatures of the Western U.S. by 1 degree to 3°F (0.5 to 1.7°C) by the year 2030, and rise 2 degrees to 4.5 °F degrees (1.2 to 2.5°C) by the year 2050. The reliability of Southern California's imported supplies is*

highly dependent on the amount of precipitation in the watersheds of the Colorado River and the Sierra Nevada, specifically the form of precipitation as rain or snow. Imported supplies becomes less reliable as more precipitation comes in the form of rainfall and as the snowpack melts earlier in the year. Warmer temperatures will exacerbate both of these factors: more precipitation will come in the form of rain and what snowpack is formed, will melt earlier in the year. Projections of climate change suggest the Western United States (WUS) and the Southwest are particularly vulnerable due to this heavy reliance of temperature sensitive snowpack."

A summary of the climate change impacts by the year 2050 in the Western U.S. was provided as follows:

- Temperature in the area expected in increase roughly 2 to 4.5°F
- The increase in temperature is expected to shift peak runoff one or two weeks earlier in the year and reduce the overall snowpack
- The intensity and frequency of daily maximum runoff and precipitation events will increase (i.e., more flood-type events).
- The frequency of abnormally low annual runoff will increase (i.e., more drought events).
- For these reasons, imported water supplies are expected to be less reliable by the year 2050.

The report [AP, 2015] stated that "*without citywide storm water capture efforts, any additional precipitation projected with climate change will not significantly offset demand*." The primary recommendations for increasing the City of Long Beach's climate-resiliency of its water supply, which can be applied to the City of Signal Hill as well, included the following:

- Encourage turf replacement. Continue to replace landscapes that are not native to the region and require large amounts of irrigation water with those that thrive in semi-arid climates with little to no supplemental irrigation.
- Encourage projects to capture stormwater on-site and minimizes urban runoff. Consider studying the cost effectiveness of different stormwater capture strategies, particularly on site at homes, street medians, commercial sites, parks and other areas.

6-12 Energy Intensity

Water is distributed from three wells, three reservoirs, three booster pump stations, and one imported water connection. The electric billing data could not be obtained for the facilities, therefore the City's energy intensity for its water facilities cannot be reported at this time.

SECTION 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

7-1 Introduction

CWC §10635 requires every urban water supplier to include as part of the UWMP an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry years. The supply and demand assessment is a comparison of the total water supply sources available to the long-term projected water use over the next 20 years, in five year increments for a normal, single dry water year, and a drought lasting five consecutive years.

Urban water suppliers are also required to include a Drought Risk Assessment (DRA) for its water service to its customers as a part of information considered in developing the demand management measure and water supply projects and programs. The DRA includes the following:

1. A description of the data, methodology, and basis for one or more supply shortage conditions
2. A determination of the reliability of each source of supply under a variety of water shortage conditions.
3. A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.
4. Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria

7-2 Water Service Reliability Assessment

7-2.1 Constraints on Water Sources

The City of Signal Hill's (City) water supplies include groundwater, imported water, and recycled water. The City receives the majority of its water supply from pumped water from within the Central Basin and the rest is supplemented by imported water. There is one City park irrigation system served recycled water from the Long Beach Public Utilities Department (LBPUD) recycled water system.

7-2.1.1 Groundwater Supplies

Groundwater supplies come from Central Basin, which was adjudicated in 1965 due to declining water levels. In the years following adjudication, groundwater levels rebounded and have been maintained by active recharge and annual limits to groundwater pumping by each party to the adjudication. The Central Basin Watermaster is tasked with ensuring compliance with the Judgment and preventing future overdraft conditions.

Groundwater elevation and quality in Central Basin have been monitored by the WRD for over 65 years. Monitoring data is compiled into annual reports, providing a comprehensive overview of the status of the basin. The most recently produced annual report is the *Regional Groundwater Monitoring Report, Water Year 2024-2025*.

In water year 2024-2025, the Central Basin and West Coast Basin (CBWCB) water levels decreased due to well below normal precipitation. The Montebello Forebay decreased just over 16 feet. The Los Angeles Forebay water levels decreased by an average of 1.8 feet, Whittier Area decreased an average of 6.3 feet, and the Central Basin Pressure Area experienced an average decrease of 9.3 feet. The West Coast Basin had the least amount of change, with water levels increasing an average of 1.6 feet; however, this increase was artificially influenced by temporary reduction in refinery pumping just before the annual water level measurements were taken. Over the entire WRD service area, water levels decreased and average of 3.9 feet. This lead to an overall decrease in groundwater storage of 80,900 AF. [WRD, 2026a]

In addition to monitoring, the WRD replenishes the Central Basin with a combination of local storm water and recycled water. The completion of the Albert Robles Center for Water Recycling and Environmental Learning (ARC) in 2019 enabled WRD to be completely locally sustainable, eliminating imported water as a source of replenishment. The City does not anticipate that legal or quantity issues will constrain the groundwater supply in the future.

WRD reports the groundwater quality in Central Basin "remains very good, with only some areas facing poor water quality from natural or anthropogenic sources that WRD staff continue to monitor closely to evaluate increasing or decreasing trends". Overall, salt and nutrient concentrations in groundwater are "generally stable, and although a few individual well zones show increasing trends, a comparable number show decreasing trends." [WRD, 2026b]

Beginning in water year 2018-2019 and ending in water year 2019-2020, WRD completed a District-wide assessment for the presence of polyfluoroalkyl substance (PFAS) constituents in WRD nested monitoring wells and production wells. Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) detections in Central Basin are generally restricted to the vicinity of the Montebello Forebay. They occur within the Montebello Forebay, immediately adjacent and to its west, as well as downgradient along the Los Angeles and San Gabriel Rivers. [WRD, 2026b] Fortunately for the City, PFOS and PFOA testing has resulted in non-detect at all three active wells.

The City's 2024 Consumer Confidence Report is provided in Appendix 7-1. All substances found were at concentrations below the maximum contaminant level (MCL), public health goals (PHG), and maximum contaminant level goals (MCLG) established by the California and U.S. Environmental Protection Agency (EPA) and California State Water Board.

Sea water intrusion in the Alamitos Gap near the mouth of the San Gabriel River poses a threat to the groundwater in the basin. The Alamitos Gap Barrier Project, operated by the LACDPW, is made up of 43 injection wells that are designed to prevent sea water intrusion into the basin by creating a groundwater pressure ridge. The project also includes 220 observation wells used to monitor groundwater levels and quality.

7-2.1.2 Imported Water Supplies

Imported water is provided by the MWD. MWD is a wholesale water provider serving most of Southern California, therefore, its water reliability is essential to the region. MWD water supplies are imported from Northern California through the State Water Project's (SWP) California Aqueduct and from the Colorado River through the Colorado River Aqueduct (CRA). In the development of the 2020 Integrated Resources Plan (IRP), MWD conducted scenario planning and thoroughly analyzed four potential future scenarios. In the scenarios, demands on imported MWD supplies varied due to different weather and demographic patterns, among other factors. Supplies also varied due to reasons such as climate change and regulatory

impacts. Potential water shortages emerged, particularly for a large portion of MWD's service area that is vulnerable to Northern California drought and regulatory restrictions. MWD has limited capacity to move Colorado River water to northern portions of the service area served by the SWP, therefore ensuring water reliability to the SWP Dependent Areas is challenging. The SWP Dependent Areas include the City of Burbank, Calleguas MWD, Eastern MWD, Inland Empire Utility Agency, Las Virgenes MWD, City of Los Angeles, City of San Fernando, Three Valleys MWD, Upper San Gabriel Valley MWD, and Western MWD. [MWD, 2022] Fortunately, the City and the Central Basin service area are not a part of the identified SWP Dependent Area.

MWD has built reliability into their system by creating the ability to store capacity in wet years for use in dry years and by diversifying supply sources across multiple watersheds. And because the supplies come from three geographically distinct regions – Northern California, the Colorado River and local resources – a dry year in one region can be offset by the other two regions. Supplies from the Colorado River Aqueduct (CRA) are less susceptible to volatility from year-to-year hydrologic conditions than MWD's core supplies from the SWP. However, all of the region's imported supplies face significant threats from various drivers of uncertainty, including climate change. [MWD, 2022]

The 2020 IRP identified potential water shortages. Only a future with low demands and stable imported supplies would allow Southern California to avoid a shortage without additional water supply and system reliability investments. The completion of the 2020 IRP launches MWD into what is termed the "One Water Implementation" phase which will involve extensive collaboration among MWD and its member agencies to develop an adaptive management strategy to approach regional problems and resource needs. [MWD, 2022]

Based on the analysis provided in MWD's 2020 IRP, the City does not anticipate that imported water will constrain supply reliability in the future.

Quality of imported water supplies is not expected to impact supply reliability for the City. Imported water comes from the Bay-Delta system through the SWP and from the Colorado River through the CRA. Water imported through the SWP is generally of high water quality, with total dissolved solids (TDS) concentrations averaging 325 mg/L. Potential water quality concerns for SWP water include total organic carbon (TOC), bromide, and salinity. TOCs and bromides present the greatest water quality concern for the SWP because they cause operational constraints and require additional treatment at MWD facilities. The most significant concern for supplies from the Colorado River is salinity. Water imported through the CRA has much higher salinity than from the SWP, averaging 630 mg/L. SWP water is typically blended with CRA water to reduce the overall salinity of imported water delivered through MWD and its member agencies.

7-2.1.3 Recycled Water Supplies

The City receives recycled water from LBPUD for one customer, Reservoir Park. The City may increase recycled water use in the future by extending the system to additional parks. Recycled water exhibits less variability than other supply sources and it is dependent on wastewater generation and not precipitation or other climatological factors. As recycled water is not limited by hydrologic variation, it is considered a nearly 100 percent reliable, drought resistant supply. Typical water quality concerns with recycled water including salinity, nutrients and pharmaceuticals and personal care products. Water quality issues with recycled water are less significant than other sources that are used for potable purposes. All recycled water distributed in the City's service area is treated to tertiary standards and is not expected to impact utilization of this water supply for non-potable water uses in the future.

7-2.2 Year Type Characterization

The City's water use is primarily provided via groundwater wells and supplemented by imported water. For purposes of reliability planning, hydrologic impacts to local groundwater (the main supply source) are considered. Since groundwater supply is partially dependent on local runoff as shown in Table 6-1, rainfall data was analyzed to determine the average, single dry, and 5-consecutive year drought periods.

Historical rainfall data from water year 2000-2001 through 2023-2024 is shown in Table 7-1. The average rainfall is 11.76 inches. Water year 2007-2008 experienced 10.90 inches of rainfall, which is the closest to the historical average and therefore considered an "average" year. Water year 2006-2007 experienced 2.58 inches of rainfall, which was the minimum amount and therefore considered the "single dry" year. The 5-consecutive year drought is defined as the driest 5-year historical sequence experienced. Water year 2011-2012 through 2015-2016 is considered the "5-consecutive year drought" period with the lowest amount of total rainfall (33.24 inches) over 5 years.

The basis of water year data used for the water service reliability assessment is provided in Table 7-2. Based on the historical rainfall data shown in Table 7-1, the City selected 2007-2008 as the "average" year, 2006-2007 as the "single dry" year, and 2011-2012 through 2015-2016 as the "5-consecutive year drought" period.

Table 7-1
Rainfall Data

Water Year (Oct. 1-Sept. 30)	Total Rainfall (in)	% of Average Rainfall	5 Year Total Rainfall (in)	Year Type
2000-2001	15.67 [1]	133%	-	
2001-2002	4.08 [1]	35%	-	
2002-2003	15.33 [1]	130%	-	
2003-2004	6.69 [1]	57%	-	
2004-2005	28.00 [1]	238%	69.77	
2005-2006	9.28 [1]	79%	63.38	
2006-2007	2.58 [2]	22%	61.88	Single Dry
2007-2008	10.90 [2]	93%	57.45	Average
2008-2009	9.44 [2]	80%	60.20	
2009-2010	15.66 [2]	133%	47.86	
2010-2011	18.80 [2]	160%	57.38	
2011-2012	7.59 [2]	646%	62.39	5-Consectutive Year Drought
2012-2013	6.69 [2]	569%	58.18	
2013-2014	4.62 [2]	393%	53.36	
2014-2015	9.35 [2]	795%	47.05	
2015-2016	4.99 [2]	424%	33.24	
2016-2017	20.10 [2]	171%	45.75	
2017-2018	3.53 [2]	30%	42.59	
2018-2019	17.63 [2]	150%	55.60	
2019-2020	14.21 [2]	121%	60.46	
2020-2021	4.56 [2]	39%	60.03	
2021-2022	7.59 [2]	65%	47.52	
2022-2023	23.75 [2]	202%	67.74	
2023-2024	21.09 [2]	179%	71.20	
Minimum	**2.58**			
Average	**11.76**			
Maximum	**28.00**			

[1] *Rainfall data at Long Beach Reclamation Plant (LADWP Station*
[2] *Rainfall data at Long Beach Airport (LADWP Station 662D)*

Table 7-2
Basis of Water Year Data

Year Type	Base Year If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2024-2025, use 2025	Available Supplies if Year Type Repeats	
		☐	Check the box if quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. **Location:** [insert location from UWMP]
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (AF)	% of Average Supply
Average Year	2008	2,129	100%
Single-Dry Year	2007	2,338	110%
Consecutive Dry Years 1st Year	2012	2,178	102%
Consecutive Dry Years 2nd Year	2013	2,228	105%
Consecutive Dry Years 3rd Year	2014	2,110	99%
Consecutive Dry Years 4th Year	2015	1,845	87%
Consecutive Dry Years 5th Year	2016	1,789	84%
NOTES:			

7-2.3 Water Service Reliability

The "average" year is interchangeable with "normal" year. The comparison of supply and demand in normal water years is shown in Table 7-3 based on projections enumerated in *Section 6 – Water Supply Characterization and Section 4 – Water Use Characterization.* The comparison is provided for potable water only since the City only provides potable water service to its customers. In a normal water year, the City anticipates having enough supply to meet projected demands for years 2030 through 2050, with an average surplus of 2,506 AF per year.

Table 7-3
Normal Year Supply and Demand Comparison

OPTIONAL Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison - POTABLE					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals (autofill from Submittal Table 6-9 R)	4,322	4,322	4,322	4,322	4,322
Use totals (autofill from Submittal Table 4-2 R)	1,723	1,769	1,816	1,862	1,909
Surplus/(shortfall)	2,599	2,553	2,506	2,460	2,413
NOTES: Recycled water use is not included in the supply or demands.					

The comparison of supply and demand in a single dry water year is shown in Table 7-4. The comparison is provided for potable water only since the City only provides potable water service to its customers. In all future single dry year scenarios, the City anticipates having the same volume of water available to it as is

available under normal year conditions. Groundwater replenishment varies with hydrology and access to recharge supplies, but the ability to extract groundwater is more a function of long-term average recharge and is less subject to hydrologic variability from year to year. Additionally, WRD's ARC facility and other replenishment efforts to increase recharge in wet years to allow more storage and extraction in dry years will further increase the reliability of the City's water supply in dry years. As evidence, in 2007, the year selected to represent single dry year hydrology, groundwater yield was unaffected by the drought and the City had access to enough water supply to satisfy all demands. In a single dry year, the City anticipates having enough supply to meet projected demands for years 2030 through 2050, with an average surplus of 1,845 AF per year.

Table 7-4
Single Dry Year Supply and Demand Comparison

OPTIONAL Submittal Table 7-3 Retail: Single Dry Year Supply and Use Comparison - POTABLE					
	2030 (AF)	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 (AF)**
Supply totals	4,322	4,322	4,322	4,322	4,322
Use totals	2,384	2,431	2,477	2,524	2,570
Surplus/(shortfall)	1,938	1,891	1,845	1,798	1,752
NOTES: Demand in 2007 = 2,338 AF. This demand was increased by the amount of water demand expected from an increase in population for each of the future years.					

Under the multiple dry year scenario (5-consecutive year drought conditions), based on hydrologic conditions similar to the 2012-2016 period, the City also anticipates having enough water supplies to meet the majority of projected demands as shown in Table 7-5.

- The first dry year was assumed to be similar to 2012 with an adjustment for future demands due to a population increase. The 2012 demand was 2,178 AF (see Table 4-1).
- The second dry year demand was assumed to be similar to 2013 with an adjustment for future demands due to a population increase. The 2013 demand was 2,228 AF. The increase in demand is about 2.3 percent from the previous year.
- The third dry year demand was assumed to be similar to 2014 with an adjustment for future demands due to a population increase. The 2014 demand was 2,110 AF. The decrease in demand is about 5.3 percent from the previous year.
- Due to the establishment of a Level 1 Water Shortage Condition and the implementation of drought messaging in 2014, the City's actual demands decreased to 1,845 AF or by about 12.6 percent in from the previous year. Since the City now has permanent water conservation requirements and best management practices in place, the water demands are not expected to decrease as significantly as when the Level 1 Water Shortage Condition was initially implemented. Therefore, the fourth dry year demand was assumed to drop by 5.0 percent from the prior year with an adjustment for future demands due to a population increase.
- In the fifth dry year, demands were assumed to decrease by 5.0 percent from the prior year with an adjustment for future demands due to population increase.

Table 7-5
Multiple Dry Years Supply and Demand Comparison

OPTIONAL Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison -						
		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First year	Supply totals	4,332	4,332	4,332	4,332	4,332
	Use totals	2,224	2,271	2,317	2,364	2,410
	Surplus/(shortfall)	2,108	2,061	2,015	1,968	1,922
Second year	Supply totals	4,332	4,332	4,332	4,332	4,332
	Use totals	2,274	2,203	2,249	2,296	2,342
	Surplus/(shortfall)	2,058	2,129	2,083	2,036	1,990
Third year	Supply totals	4,332	4,332	4,332	4,332	4,332
	Use totals	2,156	2,203	2,249	2,296	2,342
	Surplus/(shortfall)	2,176	2,129	2,083	2,036	1,990
Fourth year	Supply totals	4,332	4,332	4,332	4,332	4,332
	Use totals	2,051	2,098	2,144	2,191	2,237
	Surplus/(shortfall)	2,281	2,234	2,188	2,141	2,095
Fifth year	Supply totals	4,332	4,332	4,332	4,332	4,332
	Use totals	1,951	1,998	2,044	2,091	2,137
	Surplus/(shortfall)	2,381	2,334	2,288	2,241	2,195
NOTES: The 1st through 3rd years are based on the demand in 2012 through 2014. The 4th and 5th dry year demands were assumed to drop by 5% from the previous year. The demands were increased by the amount of water demand expected from an increase in population for each of the future years.						

7-2.4 Description of Management Tools and Options

The City recently replaced Well No. 8 with newly constructed Well No. 10. The City plans to maintain the reliable production of groundwater supplies by refurbishing and improving production of older wells and drilling additional wells as needed.

The City's latest WSCP was adopted on Month xx 2026 (Appendix 8-1). The City has remained in Level 2 since 2021. The City will consider going from a Level 2 to Level 1 after undergoing an assessment of demand at the end of FY 26-27. In the event of a future supply shortage, the City will move to Level 3 or higher to increase water conservation efforts if needed. Further description of the WSCP can be found in Section 8.

7-3 Drought Risk Assessment

The drought risk assessment (DRA) evaluation is required so that a water supplier can contemplate management of their water supplies during stressed hydrologic conditions in relation to variations in customer water use. Most importantly, it provides the water supplier an opportunity to evaluate the functionality of its WSCP shortage response actions and understand the degree of response that may be necessary as it relates to managing water supplies. The evaluation can help identify undesired risks and allow proactive steps to be taken prior to the next actual drought period lasting at least five consecutive years.

The DRA must include a description of the following:

1. Data and methods used
2. Basis for the supply shortage conditions

3. Determination of the reliability of each source
4. Comparison of total water supplies and uses during the drought

7-3.1 Data and Methods

The DRA evaluation is based on the five driest consecutive years on record, which occurred from 2011-2012 through 2015-2016 as shown in Table 7-1. The total production and purchase for 2012 through 2016 is shown in Table 7-6. This production and purchase data is increased by the amount of water demand expected from an increase in population by 2030 and in the DRA evaluation to represent the annual water use for a potential future 5-year dry period.

Table 7-6
Historical Production and Purchase Data
for Driest Five Years on Record

Year	Well Production		Imported Water Purchase		Total Production and Purchase	DRA Water Use Projection[1]
	AFY	%	AFY	%	AFY	AFY
2012	2,147	98.6%	31	1.4%	2,178	2,224
2013	2,067	92.8%	161	7.2%	2,228	2,274
2014	1,356	64.3%	754	35.7%	2,110	2,156
2015	1,754	95.1%	91	4.9%	1,845	2,051
2016	1,789	100.0%	0	0.0%	1,789	1,950

[1]DRA water use projection = Total production purchase during historical drought years increased by the amount of water demand expected from an increase in population by 2030. See Table 7-5, 2030 projections.

7-3.2 Basis for the Supply Shortage Conditions

The City's total groundwater right is 2,022 AF. For the Drought Risk Assessment, the City conservatively conducted the assessment as if only the amount of groundwater rights was available and there was no carryover included in the City's total available groundwater supply. The imported water supply was also excluded.

7-3.3 Water Source Reliability

The City completed the construction of Well No. 10 in 2025 and it is currently permitted to operate by the Division of Drinking Water. Once in operation, the City plans to provide about 70 percent of the supply with groundwater and 30 percent with imported water. Imported water will primarily be used to meet the peak demands or as an emergency supply source.

7-3.4 Water Supply and Use Comparison

The five-year DRA analysis is shown in Table 7-7. For this analysis, the total supply is only the City's total groundwater rights of 2,022 AF without any carryover from previous years. As shown in Table 7-7, the demands exceed the groundwater rights for the first three years of the drought. The deficit ranges from 29 AF to 252 AF. This would require the use of imported water or up to a 9 percent reduction in demand which could be achieved with additional water conservation efforts or declaring an additional Water Shortage Condition stage per the WSCP (See Appendix 8-1).

Table 7-7
Five-Year Drought Risk Assessment

OPTIONAL Submittal Table 7-5 Retail: Five-Year Drought Risk Assessment - POTABLE	
2026	**Total**
Total Water Use (AF)	2,224
Total Supplies (AF)	2,022
Surplus/Shortfall w/o WSCP Action	(202)
2027	**Total**
Total Water Use (AF)	2,274
Total Supplies (AF)	2,022
Surplus/Shortfall w/o WSCP Action	(252)
2028	**Total**
Total Water Use (AF)	2,156
Total Supplies (AF)	2,022
Surplus/Shortfall w/o WSCP Action	(134)
2029	**Total**
Total Water Use (AF)	2,051
Total Supplies (AF)	2,022
Surplus/Shortfall w/o WSCP Action	(29)
2030	**Total**
Total Water Use (AF)	1,951
Total Supplies (AF)	2,022
Surplus/Shortfall w/o WSCP Action	71
NOTES:	

7-3.5 Demand Strategies

To account for deficits and to build resiliency in addressing potential supply shortfalls, the City has the ability to use carryovers, storage, and other means to address shortages that would not require escalating current or future potable water restrictions. The City plans to convert unused water rights into storage in fiscal years where the total water use (AF) is less than the total APA (2022 AF) in efforts to increase supplies and provide the City with the ability to address demand need and not default to WSCP Action.

Other efforts include establishing a better means of obtaining additional water resources through the establishment of future active interconnections that would be less costly than the City's singular interconnection. The City of Signal Hill has engaged with the City of Long Beach and is actively working with the Public Utilities Department to establish a permanent active interconnection for potable water.

7-4 Climate Change

Fortunately, WRD took the initiative and completed the construction of the ARC so that 21,000 AFY of advanced treated water can be used to replenish the Central Basin. This has ended WRD's reliance on imported water for groundwater replenishment as well as significantly reducing the need for local runoff for replenishment. A significant reduction in supply due to climate change is therefore not expected over the 25-year planning horizon.

Climate change may not significantly reduce supply in Central Basin but demands in the GLAC Region are predicted to increase due to increased temperatures, especially because potable water is still used for irrigation purposes. This in turn could place a larger demand on the groundwater supplies that are available.

The City's maximum water use in 2013 was 2,228 AF which is 206 AF more than its groundwater rights of 2,022 AF without accounting for normal carryover. The difference is 9.2% of the maximum water use. Currently, the water use is about 1,677 AF per year. This is about 24.7% lower than the maximum water use. Therefore, even if imported water is not available and the City does not have access to its normal carryover volume in the groundwater basin due to climate change, the City should still have sufficient supply to meet its current demands. A water deficit is not expected as long as system demands remain approximately the same or less.

SECTION 8

WATER SHORTAGE CONTINGENCY PLAN

8-1 General

A water shortage occurs when the water supply available is insufficient to meet the normally expected customer water use at a given point in time. It may occur due to a number of reasons, such as population growth, climate change, drought, and/or catastrophic events.

A Water Shortage Contingency Plan (WSCP) is a document used by a water supplier to prevent catastrophic service disruptions through proactive, rather than reactive, management. It documents the process used by a supplier to anticipate water supply disruptions and describes how the supplier intends to address a water shortage when it occurs. It can also be used to justify the projects, policies, and programs determined necessary to mitigate the risk of a water shortage condition.

8-2 Water Shortage Contingency Plan Requirements

Water Code Section 10632 requires every urban water supplier to prepare and adopt a WSCP as a part of its Urban Water Management Plan (UWMP) that consists of the following elements:

1. Analysis of Water Supply Reliability Analysis conducted pursuant to Water Code Section 10635. [Water Code Section 10632(a)(1)]
2. Procedures for conducting an annual water supply and demand assessment with prescribed elements. Under Water Code Section 10632.1, urban water suppliers are required to submit, by July 1 of each year an annual water shortage assessment report to DWR. [Water Code Section 10632(a)(2)]
3. Six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50- percent shortages and greater than 50-percent shortage. [Water Code Section 10632(a)(3)(A)]
4. Locally appropriate "shortage response actions" for each shortage level, with a corresponding estimate of the extent the action will address the gap between supplies and demands. [Water Code Section 10632(a)(4)]
5. Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments of any current or predicted water shortages, associated response actions, and other relevant communications. [Water Code Section 10632(a)(5)]
6. Customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions. [Water Code Section 10632(a)(6)]
7. Description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions, such as statutory authorities, ordinances, resolutions, and contract provisions. [Water Code Section 10632(a)(7)]
8. Description of the financial consequences of, and responses for, drought conditions. [Water Code Section 10632(a)(8)]

9. Monitoring and reporting requirements and procedures to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements. [Water Code Section 10632(a)(9)]

10. Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of its WSCP in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed. [Water Code Section 10632(a)(10)]

8-3 Water Shortage Contingency Plan

The City updated the WSCP along with the 2025 UWMP. The updated WSCP is included as Appendix 8-1. The City adopted the updated WSCP on Month xx, 2026 per Resolution No. 2026-xx-xxxx.

A summary of the WSCP plan levels is provided in Table 8-1. A summary of supply augmentation and demand reduction actions associated with each plan level is provided in Table 8-2 and Table 8-3.

Table 8-1
Water Shortage Contingency Plan Levels

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%	Level 1	Up to 10%
2	Up to 20%	Level 2	10-20%
3	Up to 30%	Level 3	20-30%
4	Up to 40%	Level 4	30-40%
5	Up to 50%	Level 5	40-50%
6	>50%	Level 6	Greater than 50%
NOTES:			

Table 8-2
Supply Augmentation and Other Actions

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)				
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)	
Add additional rows as needed				
Level 1	Stored Emergency Supply	Percentage	Up to 10%	Strategic use of storage at Gundry, Temple, and Hilltop Reservoirs can manage peak demands and reduce strain on supply sources during acutes shortages.
Level 2	Other Purchases	Percentage	10-20%	The City may temporarily rely on imported water supplies through its Metropolitan Water District connection during localized groundwater shortages or well outages.
Level 2	Other Actions (describe)	Percentage	10-20%	The City can optimize production at Well No. 9 by maximizing operation of nano-filtration and LGAC treatment systems to utiliize groundwater constrained by water quality fluctuations.
Level 2	Other Actions (describe)	Percentage	10-20%	Redevelopment of Wells No. 7 and 9, Well 9 treatment improvements, and evaluation of new well sites will improve long-term groundwater reliability and system redundancy.
Level 3 - 6	Transfers	Percentage	>20%	The City may lease unpumped groundwater rights from other Central purveyors through the Central Basin Watermaster to temporarily augmet local supplies during drought conditions.
Level 3 - 6	Other Purchases	Percentage	>20%	Emergency interconnections with neighboring agencies, including LBPUD, may provide temporary potable supply augmentation during infrastructure failures or severe shortages.
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.				
NOTES:				

Table 8-3
Demand Reduction Actions

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B),(D), and (E)					
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value		
Level 1	Landscape - Limit landscape irrigation to specific days	Percentage	Up to 10%	Limited to 3 days per week (Tuesday, Thursday, & Saturday)	Yes
	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner			Repair all leaks and/or breaks within 72 hours	Yes
	Water Features - Restrict water use for decorative water features, such as fountains			Filling or re-filling of ornamental lakes or ponds is prohibited except to sustain existing aquatic life.	Yes
	Other			City may implement other prohibited water uses after providing notice to the City's water customers.	Yes
Level 2	CII - Restaurants may only serve water upon request	Percentage	10-20%		Yes
	Landscape - Limit landscape irrigation to specific days			Limited to 2 days per week (Tuesday & Saturday)	Yes
	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner			Repair all leaks and/or breaks within 48 hours	Yes
	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water				Yes
	Other water feature or swimming pool restriction			Re-filling of more than one foot and initial filling is prohibited.	Yes
	Water Features - Restrict water use for decorative water features, such as fountains			Filling or re-filling of ornamental lakes or ponds is prohibited except to sustain existing aquatic life.	Yes
	Landscape - Prohibit certain types of landscape irrigation			Median irrigation prohibited.	Yes
	Other			City may implement other prohibited water uses after providing notice to the City's water customers.	Yes
Level 3 - 6	Landscape - Prohibit all landscape irrigation	Percentage	>20%	Exceptions: maintenance of vegetation using hand held devices or very-low flow drip type systems, landscape needed for fire protection or soil erosion, plant materials identified as rare or needed for wellbeing of animals, landscape of	Yes
	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner			Repair all leaks and/or breaks within 24 hours	Yes
	Other			City may discontinue service to customers who violate provisions of declared Level 3 water supply	Yes
	Other			No new annexations	Yes
	Other			City may implement other prohibited water uses after providing notice to the City's water customers.	Yes
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

SECTION 9

DEMAND MANAGEMENT MEASURES

9-1 General

The UWMP Act requires a water supplier to describe the demand management measures (DMM) being implemented to achieve its urban water use targets. In 2014, the UWMP Act was amended to reorganize the original 14 specific DMMs into six more general requirements plus an "other" category for retail agencies. The updated retail DMMs include: (1) water waste prevention ordinances, (2) metering, (3) conservation pricing, (4) public educationand outreach, (5) programs to assess and manage distribution system real loss, (6) water conservation program coordination and staffing support, and (7) other DMMs that have a significant impact on water use. This section describes the DMMs that the City has implemented, is currently implementing, and plans to implement in order to manage demands in its service area and continue to meet its urban water use reduction targets.

9-2 Waste Water Prevention Ordinance

As part of its commitment to conserve water, the City implements various water programs and ordinances that obligate its customers to reduce water consumption. The City's Municipal Code Chapter 13.03, Water Conservation Program, Sections 13.03.040 through 13.03.80 include permanent water use restrictions, as well as progressive water use restrictions that are activated based on anticipated water supply shortages.

Permanent water use restrictions and exemptions to permanent restrictions are:

A. Automated Watering (Irrigation) System Operation:

1. Automated watering or irrigation of any lawn, landscape, or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 4:00 p.m. Pacific Standard Time on any day. Automated landscape irrigation systems may nevertheless be operated during these hours for very short periods of time, such as ten minutes, for the express purpose of adjusting or repairing a landscape irrigation system.

2. Automated Watering Duration Limits.

   a. High Flow Sprinkler Heads (Greater than two gallons per minute). All watering activities are required to avoid visible runoff or pooling on adjacent hard surfaces. Automated sprinkler heads with flow rates greater than two gallons per minute may be operated up to a maximum of ten minutes (per valve station) on each authorized day so long as no visible runoff or pooling occurs. If runoff or pooling is visible, the sprinkler station run time shall be further reduced to eliminate runoff and pooling. Watering is prohibited from 9:00 a.m. to 4:00 p.m. daily.

   b. Low Flow Sprinkler/Rotator Heads (Less than two gallons per minute). All watering activities are required to avoid visible runoff and pooling on adjacent hard surfaces. Automated sprinkler heads with flow rate less than two gallons per minute may be operated up to a maximum of twenty minutes (per valve station) on each authorized day so long as no visible runoff or pooling occurs. If runoff is visible, the sprinkler station run time shall be further reduced to eliminate runoff and pooling. Watering is prohibited from 9:00 a.m. to 4:00 p.m. daily.

c. Drip Watering Systems (Less than two gallons per hour). Properly installed automated drip systems with flow rates less than two gallons per hour are exempt from day and duration limitations so long as no visible runoff or pooling is created. Watering is prohibited from 9:00 a.m. to 4:00 p.m. daily.

B. Handheld Watering of Lawn, Tree and Vegetable Gardens: All watering activities are required to avoid visible runoff on adjacent hard surfaces. Use of a handheld bucket or similar container, a hand-held hose equipped with a positive self-closing water shut off nozzle or device is exempt from day, time of day and duration limitations. Vegetable gardens may be watered by hand or with soaker hoses without day, time of day and duration limitations. Trees may be watered by hand, soaker hose under the drip-line of the tree canopy or with automatic tree bubblers without limitation.

C. Excessive Water Flow or Runoff or Pooling: Any watering; irrigating of any lawn, landscape or area with vegetation; or any other use of water in a manner that causes or results in excessive water flow, runoff or pooling onto an adjoining surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, streets, alleys, gutters, or ditches is prohibited.

D. Washing Down Hard or Paved Surfaces Prohibited: Washing of driveways, sidewalks, parking areas, patios, other outdoor impermeable surface areas, kitchens or objects, such as kitchen non-skid mats with a hose, is prohibited unless using a water-conserving pressurized cleaning device as defined herein. A water-conserving pressurized cleaning device is defined as a device that discharges water at a minimum of one thousand pounds per square inch or a device that has been rated at using less than three gallons of water per minute. A simple spray nozzle does not qualify as a water-conserving pressurized cleaning device.

E. Obligation to Fix Leaks, Breaks, or Malfunctions: Excessive use, loss, or escape of water through leaks, breaks, or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than seven days of receiving notice from the city is prohibited.

F. Re-circulating Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

G. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, motorcycle, truck, van, bus, recreational vehicle, boat or trailer, camping or cargo trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container, or a hand-held hose equipped with a positive self-closing water shut off nozzle or device. No excessive water flow or runoff as defined in Section 13.03.040 is permitted. This provision does not apply to any commercial car washing facility.

H. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, bar, club, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

I. Commercial Lodging Establishments Must Provide Option to Not Launder Linen Daily: Hotels, motels, and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments shall prominently display notice of this option in each bathroom using clear and easily understood language.

J. **No Installation of Single Pass Cooling System:** Installation of single pass cooling systems is prohibited in buildings requesting new water service

K. **No Installation of Non-re-circulating Commercial Car Wash and Laundry Systems.** Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

L. **Restaurants Required to Use Water Conserving Dish Wash Spray Valves:** Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

M. **Commercial Car Wash Systems:** Effective on January 1, 2011, all commercial conveyor car wash systems must have installed and operational re-circulating water systems, or must have secured an extension of this requirement from the city.

N. **Large Landscape Areas – Rain Sensors:** Effective January 1, 2011, large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule or must have secured and extension of this requirement from the city.

O. **Reporting Mechanism – Hotline**: The city will establish a water waste hotline for residents to report violations of this chapter. This hotline may be set-up and offered through a dedicated phone number and/or through submittal on the city's website.

P. **All automated outdoor irrigation during and within forty-eight hours following measurable rainfall is prohibited**.

Q. **Exemptions to Permanent Restrictions:**

1. Watering with a hand-held hose or a refillable watering vessel, such as a bucket or a tree irrigator, is allowed at any time on any day of the week.
2. Drip irrigation systems with emitters of less than three gallons per hour capacity are exempt from run time and day restrictions due to increased efficiency.
3. Soaker hoses or automatic tree bubblers may be used to water trees so long as watering is done under the drip-line of the tree canopy.
4. Watering a vegetable garden with a soaker hose is exempt from the watering limitations.

The Municipal Code includes three (3) levels of progressive water use restrictions based on anticipated water supply delivered to the region. Currently, a Level 2 Water Supply Shortage is in effect. See Section 8-3 for details on the levels of water use restrictions.

9-3 Metering

The City is advancing modernization of its water metering system. The previous Advanced Metering Infrastructure (AMI) pilot program has been discontinued and the associated 260 AMI meters have been removed.

The City is now transitioning to an Automated Meter Reading (AMR) system utilizing Sensus and Neptune-compatible meters with Sensus SmartPoint wired 520M endpoint radios. In March 2025, a pilot deployment

of approximately 100 radios was successfully completed to confirm system compatibility and data integration through the City's FlexNet platform.

The proposed AMR project includes installation of approximately 3,000 endpoint radios, enabling remote meter reading, improved data accuracy, and enhanced system monitoring. This upgrade will reduce reliance on manual meter reading, improve operational efficiency, and support early detection of leaks and abnormal water use, consistent with the City's long-term infrastructure and financial planning objectives. A purchase agreement with Aqua-Metric was issued in March 2026. Delivery of equipment is expected June 2026. City staff will install radios and complete system integration and testing by February 2027.

9-4 Conservation Pricing

The City adopted its current water rates in May 2025. The water service charges have two components – a monthly fixed charge and a volumetric usage charge, which acts as conservation pricing. The fixed charge is based on the service meter size and customer type as shown in Table 9-1. The volumetric use charge for residential and irrigation customers is an inclining two-tier rate structure. The volumetric use charge for all other customers is an inclining three-tier rate structure. Basically, efficient water use is billed at a lower price and higher water use is billed at progressively higher prices. The volumetric use charges are shown in Table 9-2.

Table 9-1
Fixed Meter Monthly Charge by Meter Size and Customer Type

Effective Date	7/1/2025	7/1/2026	7/1/2027	7/1/2028	7/1/2029
Residential Single Family, Residential Multi-Family, Commercial, Industrial, Institutional, and Irrigation					
5/8"	$29.62	$34.07	$38.84	$44.27	$48.70
3/4"	$29.62	$34.07	$38.84	$44.27	$48.70
1"	$76.25	$87.68	$99.96	$113.95	$125.35
1.5"	$168.07	$193.28	$220.34	$251.19	$276.31
2"	$291.24	$334.92	$381.81	$435.27	$478.79
3" - 8"	$652.51	$750.39	$855.44	$975.20	$1,072.72
10"	$2,081.57	$2,393.80	$2,728.94	$3,110.99	$3,422.09
Residential Fire Service Meters					
2"	$140.06	$161.07	$183.62	$209.32	$230.26
4"	$276.89	$318.42	$363.00	$413.82	$455.20
6"	$416.31	$478.76	$545.78	$622.19	$684.41
8"	$525.57	$604.41	$689.03	$785.49	$864.04
10"	$525.57	$604.41	$689.03	$785.49	$864.04
Commercial Fire Service Meters					
2"	$236.84	$272.37	$310.50	$353.97	$389.37
3"	$236.84	$272.37	$310.50	$353.97	$389.37
4"	$525.57	$604.41	$689.03	$785.49	$864.04
6"	$525.57	$604.41	$689.03	$785.49	$864.04
8"	$525.57	$604.41	$689.03	$785.49	$864.04
10"	$525.57	$604.41	$689.03	$785.49	$864.04

Rates per City of Signal Hill Water Rate Study, April 1, 2025 [RFC, 2025]

Table 9-2
Water Usage Consumption Charge per Billing Unit by Tier and Customer Type

Effective Date	7/1/2025	7/1/2026	7/1/2027	7/1/2028	7/1/2029
Residential - Single Family and Multi-Family					
Tier 1 0 - 15 units	$5.04	$5.80	$6.61	$7.54	$8.29
Tier 2 > 16 units	$8.04	$9.25	$10.55	$12.03	$13.23
Commercial, Industrial, and Institutional					
Tier 1 0 - 15 units	$5.04	$5.80	$6.61	$7.54	$8.29
Tier 2 16 - 150 units	$8.04	$9.25	$10.55	$12.03	$13.23
Tier 3 > 151 units	$11.83	$13.60	$15.50	$17.67	$19.44
Irrigation					
Tier 1 0 - 15 units	$5.04	$5.80	$6.61	$7.54	$8.29
Tier 2 > 16 units	$7.66	$8.81	$10.04	$11.45	$12.60

Rates per City of Signal Hill Water Rate Study, April 1, 2025 [RFC, 2025]

9-5 Public Education and Outreach

In partnership with the WRD and MWD and its other member agencies, the City has participated in water use efficiency initiatives over the years and will continue to do so in the future. The City actively promotes using water more efficiently and eliminating water waste, in an effort to reduce water demands.

The City provides information on their water conservation program via the following sources:

1. City Website at www.cityofsignalhill.org – current restrictions are listed and links to other resources are provided
2. City Council Meetings – announcements are made about current restriction in effect
3. Local newspaper / newsletters – public service announcements are advertised
4. Water Conservation Hotline (562-989-7351) – to report violations or obtain information about restrictions and indoor and outdoor conservation tips
5. City Cable Access Channel – air current requirements and restrictions on a regular basis
6. Public Events – provide leak detection kits for toilets
7. Social Media Outlets – post water conservation related information
8. Water Bill Inserts – the City Water Department adds language in every water billing insert promoting water conservation

9-6 Programs to Assess and Manage Distribution System Real Loss

The City completed a water loss audit for FY 2024-2025. It was found that non-revenue water as a percent of volume of the water supplied was 4.4 percent. See Section 4-7 for more details on the water loss audit completed. The City will continue to monitor and report on the system water loss each year.

Leak checks are conducted at the customer's request and meter readers perform monthly visual checks on the service meters throughout the distribution system. Residents report water leaks by calling City Hall or Public Works. Once a leak has been called in and confirmed to be on the City's water system, the Water Department schedules repairs.

Some of the routine and planned system maintenance programs the City has implemented include the following:

- Service meter replacement program (see Section 9-3)
- Routine flushing – 4 to 5 locations per week
- Annual valve exercising
- Service meter accuracy testing
- Annual pipeline replacement program (part of the Capital Improvement Program)

9-7 Water Conservation Program Coordination and Staffing Support

The City does not have its own water conservation program beyond participating in the programs provided by WRD and MWD.

9-8 Other Demand Management Measures

Rebate programs are provided to the City's customers through MWD and its member agency, CBMWD. MWD offers rebates to customers within their distribution territory through its SoCal WaterSmart program. These programs include residential rebates for turf removal, high-efficiency clothes washers, high-efficiency toilets, sprinklers, rain barrels, and irrigation controllers. MWD also offers commercial rebates for such appliances as high-efficiency toilets, urinals, irrigation controllers, and sprinkler nozzles. CBMWD's rebate website includes a rebate calculator that customers can use to quantify both residential and commercial, industrial and institutional (CII) rebates in their water service area. The City provides a link to MWD's rebate programs on its website.

City customers can participate in the residential and CII rebate programs offered through MWD through the WaterSmart program. The dollar value of these rebates, as provided on the CBMWD website, is summarized in Table 9-3.

Table 9-3
Examples of Rebates Available to City Customers in 2025

Rebate	Rebate Type	Amount
High-Efficiency Clothes Washer	Residential	$85
High-Efficiency Toilet	Residential/CII	$40
Flow Monitor/Leak Detection Devices	Residential	$100
Weather Based Irrigation Controller (less than 1 acre)	Residential	$80/Controller
Weather Based Irrigation Controller (more than 1 acre)	Residential/CII	$35/Station
Rotating Sprinkler Nozzles (min 15 nozzles)	Residential/CII	$2/Nozzle
Rain Barrel (50-199 gallons) (max. quantity 2)	Residential	$35
Cistern (200-500 gallons) (max quantitiy 1)	Residential	$250
Cistern (501-999 gallons) (max quantity 1)	Residential	$300
Cistern (1000+ gallons) (max quantity 1)	Residential	$350
Soil Moisture Sensor System	Residential/CII	$80 or $35/Controller
Turf Replacement (up to 5,000 sf)	Residential/CII	$2/sf
Ultra Low and Zero Water Urinals	CII	$200
Plumbing Flow Control Valves (min of 10)	CII	$5/Valve
Large Rotary Nozzles (min 8 nozzles)	CII	$2/Nozzle
In-stem Flow Regulator (25 device min)	CII	$1/Regulator
Irrigation Master Valve	CII	$100/Device
Irrigation Flow Sensor	CII	$100/Device
Combination Master Valve/Flow Sensor	CII	$200/Device
Connectionless Food Steamer	CII	$485
Air-cooled Ice Machines	CII	$1,000
Food Defrosting Equipment	CII	$800/Device
Cooling Tower Conductivity Controllers	CII	$625
Cooling Tower ph Controllers	CII	$1,750
Dry Vacuum Pumps	CII	$125/0.5HP
Laminar Flow Restrictors (min of 10)	CII	$10/Restrictor

Reference: https:/socalwatersmart.com
CII = Commercial, Industrial, and Institutional

9-9 Implementation over the Past Five years

Over the past five years, the City has implemented the following demand management measures (DMM):

- Implemented Level 2 Shortage Conditions per the Water Conservation Plan
- Maintained permanent water conservation requirements per its Water Conservation Plan
- Continued a meter replacement program, with each meter AMI/AMR compatible.
- Initiated an AMI pilot program and converted to an AMR program
- Updated Domestic Low-Income (DLID) for the fixed charge on water billings.
- Continued with public education and outreach programs
- Completed water audits for FY 2020, 2021, 2022, 2023, 2024, 2025
- Continued to keep up to date on CBMWD and MWD rebate programs and inform customers about them

9-10 Water Use Reduction Implementation Plan

The City will implement the DMMs described in this 2025 UWMP. The City has already achieved compliance with the 2020 water use target. However, this was accomplished during a period of drought and heightened water conservation messaging and enforcement. In order to ensure that the City will remain in compliance over the next five years, the City will closely monitor water use and tailor its public education and outreach program to ensure that targets continued to be met. The City will also continue to implement its conservation efforts by accounting for and reducing any unmetered consumption or water losses in order to maintain usage and groundwater pumping within its assigned annual and carryover water rights.

The 2025 WSCP was adopted by resolution of the City's City Council on Month xx, 2026 following a public hearing on the same date (a copy of the resolution can be found in Appendix 10-3). The hearing provided an opportunity for all residents in the service area to learn and ask questions about the WSCP and water conservation requirements.

SECTION 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

10-1 Notice Prior to Public Hearing

The agencies that received the City's Notice of Preparation and Public Hearing for its 2025 UWMP are listed in Table 10-1. As required by CWC §10621 and shown in Table 10-1, these notifications were sent out more than 60 days before the public hearing for the 2025 UWMP and a copy of the notification can be found in Appendix 10-1.

Table 10-1
Notifications to Cities and Counties

Submittal Table 10-1 Retail: Notification to Cities and Counties **Water Code Section 10621(b) and 10642**		
City Name	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing
Add additional rows as needed		
Central Basin Municipal Water District (CBMWD)	Yes	Yes
Water Replenishment District (WRD)	Yes	Yes
Long Beach Water Department (LBWD)	Yes	Yes
General Public	Yes	Yes
County Name **Drop Down List**	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		

10-2 Notice to the Public

A draft of the 2025 UWMP and WSCP was made publicly available at the City Department of Public Works counter and on the City website on Month xx, 2026. Notice of the availability of the draft 2025 UWMP and WSCP, as well as the planned public hearing was placed in the local newspaper, the Signal Tribune Newspaper, on Month xx, 2026 and Month xx, 2026. The notice announced that the draft 2025 UWMP and WSCP was available for public inspection at the City Department of Public Works counter and included the time and date of the public hearing. Confirmation that the public notice was posted in the local newspaper is provided in Appendix 10-2.

10-3 Public Hearing and Adoption

A public hearing to receive comments on the draft 2025 UWMP and WSCP was held at the City Hall on Month xx, 2026. The Final 2025 UWMP and WSCP was adopted by the City Council on Month xx, 2026 following the public hearing. A copy of the adoption resolutions is provided as Appendix 10-3 and Appendix 10-4.

The City will make any necessary amendments or "significant changes" requested by the California Department of Water Resources (DWR) until the 2025 UWMP is deemed "complete".

As part of the public hearing, the City provided information on its baseline values, water use targets, and implementation plan required in the Water Conservation Act of 2009.

10-4 Plan Submittal

The 2025 UWMP and WSCP will be submitted to California Department of Water Resources (DWR) electronically through the Water Use Efficiency (WUE) Data Portal, an online submittal tool, within 30 days of adoption.

An electronic copy (on CD) of the 2025 UWMP and WSCP will be submitted to the California State Library within 30 days of adoption.

An electronic copy of the 2025 UWMP and WSCP will be submitted to the City and County within 30 days of submitting the plans to DWR.

10-5 Public Availability

No later than 30 days after adoption, a copy of the final 2025 UWMP and WSCP will be made publicly available at the City Department of Public Works counter during normal business hours and on the City website:

https://www.cityofsignalhill.org/22/Water

10-6 Amending an Adopted UWMP or WSCP

If the adopted 2025 UWMP is amended in the future, each of the steps for notification, public hearing, adoption, and submittal will also be followed for the amended plan.

If the WSCP is revised after DWR has approved the 2025 UWMP, a copy of the revised WSCP will be submitted to DWR through the WUE Data Portal within 30 days of its adoption.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