REQUEST FOR COUNCIL ACTION

CITY COUNCIL MEETING DATE:

DECEMBER 15, 2020

CLERK OF COUNCIL USE ONLY:

TITLE:

ADOPT A RESOLUTION APPROVING THE WATER SUPPLY ASSESSMENT FOR THE 4TH AND CABRILLO MIXED-USE PROJECT LOCATED AT 1801 EAST FOURTH STREET

APPROVED

- ☐ As Recommended
- ☐ As Amended
- ☐ Ordinance on 1st Reading
- ☐ Ordinance on 2nd Reading
- ☐ Implementing Resolution
- ☐ Set Public Hearing For_____

CONTINUED TO _____

/s/ Kristine Ridge

CITY MANAGER

FILE NUMBER _____

RECOMMENDED ACTION

Adopt a resolution approving the Water Supply Assessment for the 4th and Cabrillo Mixed-Use Project located at 1801 East 4th Street.

DISCUSSION

In June 2016, the City of Santa Ana filed its 2015 Urban Water Management Plan (UWMP) with the California Department of Water Resources in accordance with California Water Code Section 10610, et seq., which requires UWMPs be filed every five years (Exhibit 1). The UWMP, among its various functions, estimates water supply sufficiency by forecasting the City's water supply capacity and anticipated consumer water demand to ensure that available water supply will meet or exceed demand.

UWMPs are point-in-time estimates that, by their nature, cannot fully capture future effects of large changes not yet known at the time the plan is developed. For this reason, California Water Code Section 10910 requires separate review of water supply sufficiency via a Water Supply Assessment document for large projects. The City must concur that adequate water supply exists for residential development projects consisting of 500 dwelling units or more before development may proceed.

The proposed development, located at the northwest corner of East 4th Street and Cabrillo Park Drive, is a mixed-use project which includes commercial space and up to 644 residential dwelling units, and therefore requires a Water Supply Assessment. Staff has reviewed the project's Water Supply Assessment and has concluded that the City has adequate supply to service the project upon completion and recommends that the City Council adopt a resolution approving this assessment (Exhibit 2).

This is the fourth Water Supply Assessment brought for Council's specific review and consideration since the completion of the UWMP. City staff will adjust the demand projections of the UWMP for the anticipated demand of this project to determine the unutilized water supply available for additional development. When a revised 2020 UWMP is filed, any current or projected water

demand from this project will be incorporated in the new baseline consumer water demand projections.

FISCAL IMPACT
There is no fiscal impact associated with this action.

Submitted By: Nabil Saba, P.E., Executive Director – Public Works Agency

Exhibits:
1. City of Santa Ana 2015 Urban Water Management Plan – may be reviewed at https://www.santa-ana.org/sites/default/files/Documents/urban_water_management_plan.pdf
2. Resolution - Water Supply Assessment for the 4th and Cabrillo Project

RESOLUTION NO. 2020-XXX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA APPROVING THE WATER SUPPLY ASSESSMENT FOR THE PROPOSED 4TH AND CABRILLO PROJECT

WHEREAS, in accordance with California Water Code Sections 10910, 10912(a)(1), and 10912(a)(6), any development that is proposing a residential development of more than 500 dwelling units requires the preparation and approval of a water supply assessment; and

WHEREAS, the proposed 4th and Cabrillo Project, bounded by Fourth Street and Cabrillo Park Drive to the south and east, Parkcourt Place to the north, and the Santa Ana Freeway to the west, is proposing development of 644 residential dwelling units and also 15,200 square feet of retail space; and

WHEREAS, the proposed 4th and Cabrillo Project therefore requires the preparation and approval of a water supply assessment pursuant to California Water Code Sections 10910 and 10912; and

WHEREAS, the City of Santa Ana is the public water system that will supply water to the proposed 4th and Cabrillo Project; and

WHEREAS, the projected water demand associated with the proposed 4th and Cabrillo Project was accounted for in the City of Santa Ana 2015 Urban Water Management Plan; and

WHEREAS, the Water Supply Assessment for the 4th and Cabrillo Project has been prepared; and

WHEREAS, the findings from the Water Supply Assessment prepared for the 4th and Cabrillo Project show that there is sufficient water supply available for the proposed 4th and Cabrillo Project during normal, single-dry, and multiple dry years within a 20-year projection to meet the projected water demand of the Project in addition to other future service area demands in the City of Santa Ana.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Ana as follows:

Section 1. The Water Supply Assessment for the 4th and Cabrillo Project is hereby approved, a copy of which is attached as Exhibit A and will be on file at the offices of the Public Works Agency of the City for public inspection.

Section 2. Approval of the Water Supply Assessment by the City does not constitute a "will-serve" or in any way entitles the 4th and Cabrillo Project to water service or to any right, priority or allocation in any supply, capacity or facility.

Section 3. Approval of the Water Supply Assessment shall not affect the City of Santa Ana's obligation to provide service to its existing customers or any potential future customers, including this 4th and Cabrillo Project.

Section 4. This Resolution shall take effect immediately upon its adoption by the City Council, and the Clerk of the Council shall attest to and certify the vote adopting this Resolution.

ADOPTED this _____ day of _____, 2020.

_____
Vicente Sarmiento
Mayor

APPROVED AS TO FORM:
Sonia R. Carvalho, City Attorney

By: _____
John M. Funk
Sr. Assistant City Attorney

AYES: Councilmembers _____

NOES: Councilmembers _____

ABSTAIN: Councilmembers _____

NOT PRESENT: Councilmembers _____

CERTIFICATION OF ATTESTATION AND ORIGINALITY

I, DAISY GOMEZ, Clerk of the Council, do hereby attest to and certify the attached Resolution No. 2020-XXX to be the original resolution adopted by the City Council of the City of Santa Ana on _____.

Date: _____

_____
Clerk of the Council
City of Santa Ana

EXHIBIT A

FUSCOE ENGINEERING

4th and Cabrillo Project

WATER SUPPLY ASSESSMENT

City of Santa Ana
County of Orange, California

Prepared For

Arnel & Affiliates
949 South Coast Drive, Suite 600
Costa Mesa, CA 92626

Prepared By

Fuscoe Engineering, Inc.
16795 Von Karman, Suite 100
Irvine, California 92606
949.474.1960
www.fuscoe.com

Project Manager:
Josh Ruiz, PE

Date Prepared: April 24, 2020
Date Revised: August 21, 2020

full circle thinking®

CITY OF SANTA ANA

4th and Cabrillo

WATER SUPPLY ASSESSMENT

ORANGE COUNTY, CALIFORNIA

PREPARED FOR:

ARNEL & AFFILIATES
949 South Coast Drive, Suite 600
Costa Mesa, CA 92626

PREPARED BY:

FUSCOE ENGINEERING, INC.
16795 Von Karman, Suite 100
Irvine, CA 92606
949.474.1960
www.fuscoe.com

DATE PREPARED: APRIL 24, 2020

DATE REVISED: AUGUST 21, 2020

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ACRONYMS & ABBREVIATIONS

AF	Acre-Feet
AFY	Acre-Feet per Year
BEA	Basin Equity Assessment
BPP	Basin Production Percentage
CDR	Center for Demographic Research
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CRA	Colorado River Aqueduct
DU	Dwelling Unit
DWR	Department of Water Resources
GPCD	Gallons per Capita per Day
gpd	gallons per day
GWRS	Groundwater Replenishment System
LTFP	Long Term Facilities Plan
M&I	Municipal and Industrial
MG	Million Gallons
OCWD	Orange County Water District
QSA	Quantification Settlement Agreement
RA	Replenishment Assessment
SANDAG	San Diego Association of Governments
SAR	Santa Ana River
SB	Senate Bill
SCAG	Southern California Association of Governments
SF	Square Feet
SWP	State Water Project
UWMP	Urban Water Management Plan
WSA	Water Supply Assessment

1. WSA PURPOSE AND BACKGROUND

This Water Supply Assessment (WSA) was prepared for Arnel & Affiliates as the project sponsor/applicant, and the City of Santa Ana ("City" or "Santa Ana") as the lead agency under the California Environmental Quality Act (CEQA), by Fuscoe Engineering, Inc. (Fuscoe), as the consultant, regarding the 4th and Cabrillo Project ("4th and Cabrillo" or "Project"). This study is a requirement of California law, specifically Senate Bill 610 (referred to as SB 610). SB 610 is an act that amended Section 21151.9 of the Public Resources Code, and Sections 10631, 10656, 10910, 10911, 10912, and 10915 of the Water Code. SB 610 repealed Section 10913, and added and repealed Section 10657 of the Water Code. SB 610 was approved by the Governor and filed with the Secretary of State on October 9, 2001, and became effective January 1, 2002.

Under SB 610, WSAs must be furnished to local governments for inclusion in environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to CEQA. Due to increased population, land use changes and water demands, this water bill seeks to improve the link between information on water availability and certain land use decisions made by cities and counties. SB 610 takes a significant step toward managing the demand of California's water supply as it provides regulations and incentives to preserve and protect future water needs. The intent of this bill is to coordinate local water supply and land use decisions to help provide California's cities, farms, and industrial developments with adequate water supplies.

With the introduction of SB 610, any project under CEQA shall provide a WSA if the project meets the definition of the Water Code Section 10912. "Project'' means any of the following:

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

After review of Water Code Section 10912, the 4th and Cabrillo Project is deemed a "Project" because it proposes a residential development of more than 500 dwelling units.

In addition, it is also necessary to include the recent passing (September 24, 2016) of Senate

Bill 1262 (Chapter 594) which acts to amend Section 66473.7 of the Government Code, and to amend Section 10910 of the Water Code, relating to land use[1] and the Sustainable Groundwater Management Act (SGMA) that was passed by California's Governor on September 16, 2014. Pursuant to SB 1262, as of January 1, 2017, WSAs are now required to include certain SGMA-related information if water supply for a proposed project includes groundwater. Specifically, if a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

- A description of any groundwater basin or basins from which the proposed project will be supplied.
- For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.
- For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following:
    - Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924.
    - If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.
- For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

As described in more detail throughout this WSA, the proposed Project will utilize water from the Orange County Groundwater Basin that is designated as a medium priority basin. Therefore, additional information regarding groundwater supply and management will be included in this WSA to satisfy the requirements of SB 1262.

[1] Senate Bill No. 1262, CHAPTER 594, found here:
http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB1262

2. INTRODUCTION

2.1 PROJECT DESCRIPTION

The 4th and Cabrillo Project is an approximately 8.4-acre residential and commercial project located in the City of Santa Ana. The Project address is bounded by Fourth Street and Cabrillo Park Drive to the south and east, Parkcourt Place to the north, and the Santa Ana Freeway to the west. See Figure 1 for a vicinity map of the proposed Project. The proposed Project site is currently vacant.

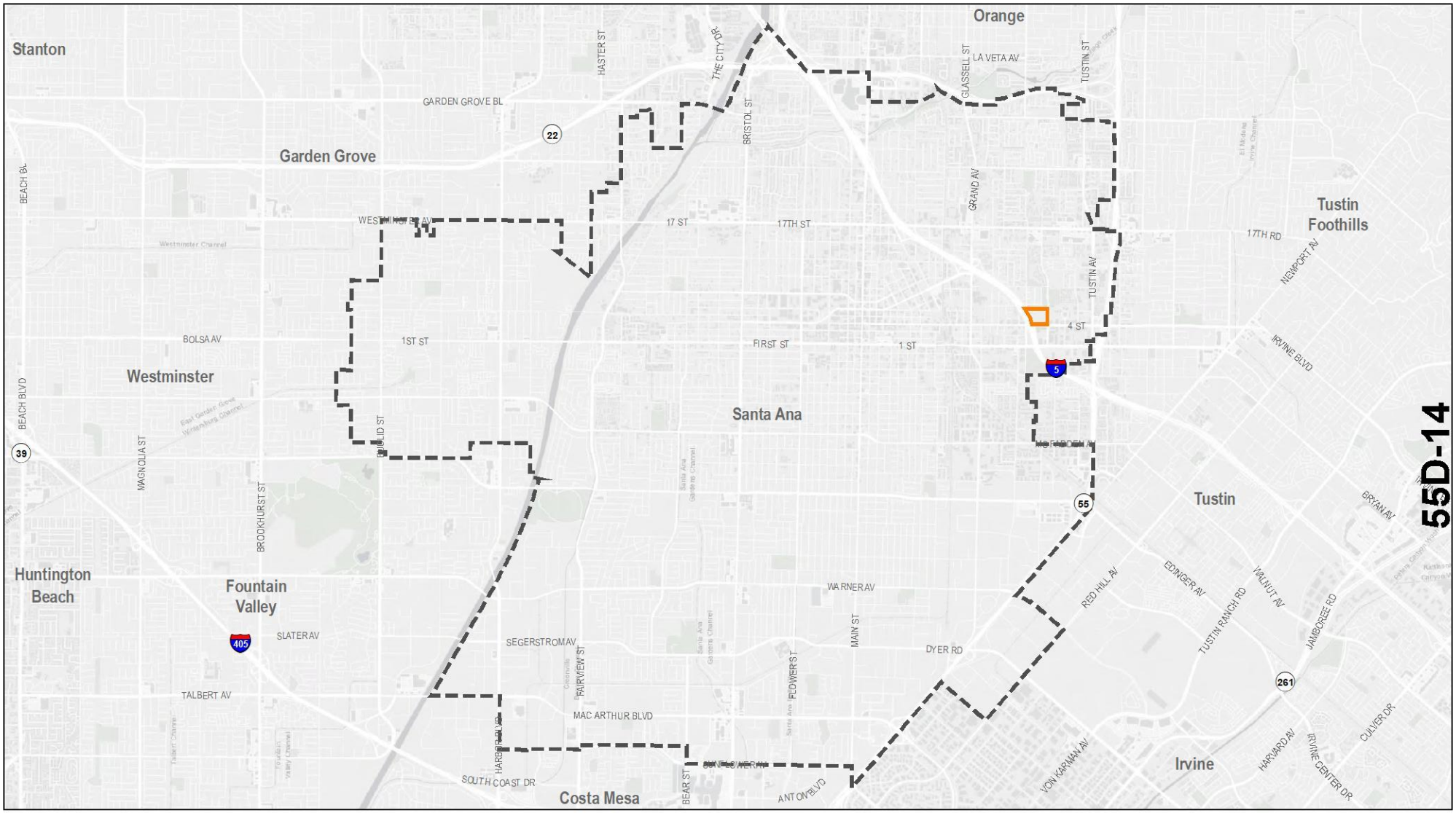
The Project includes the development a wrap style apartment complex consisting of 644 dwelling units. In addition, 15,200 sf of retail space will be included as part of the complex.

The majority of the parking for the Project will be located within two multi-level parking garages. Amenities of the Project include pool, spa, fitness center, courtyards, dog park and other outdoor trails. Approximately 64,482 SF of landscaped open space is provided through common areas and courtyards. See Table 1 below for additional specifications related to the proposed Project.

Table 1 Project Home Type Details

Home Type	Unit Count	Percentage of Total Unit Count
Studios	39	6.1%
One-bedrooms	326	50.6%
Two-bedrooms	248	38.5%
Three-bedrooms	31	4.8%
Total	644	100%

As mentioned, the purpose of this WSA is to provide information to confirm that the City of Santa Ana has sufficient water supply to provide for the proposed Project in addition to other service area demands now and into the future. This WSA compares the existing water demand of the Project site to the proposed water demand of the Project and to the City of Santa Ana regional water supplies and demands through 2040.



4th and Cabrillo Water Supply Assessment

City of Santa Ana

FUSCOE ENGINEERING

City of Santa Ana Boundary

4th and Cabrillo Location

Figure 1

Vicinity Map

4/23/2020

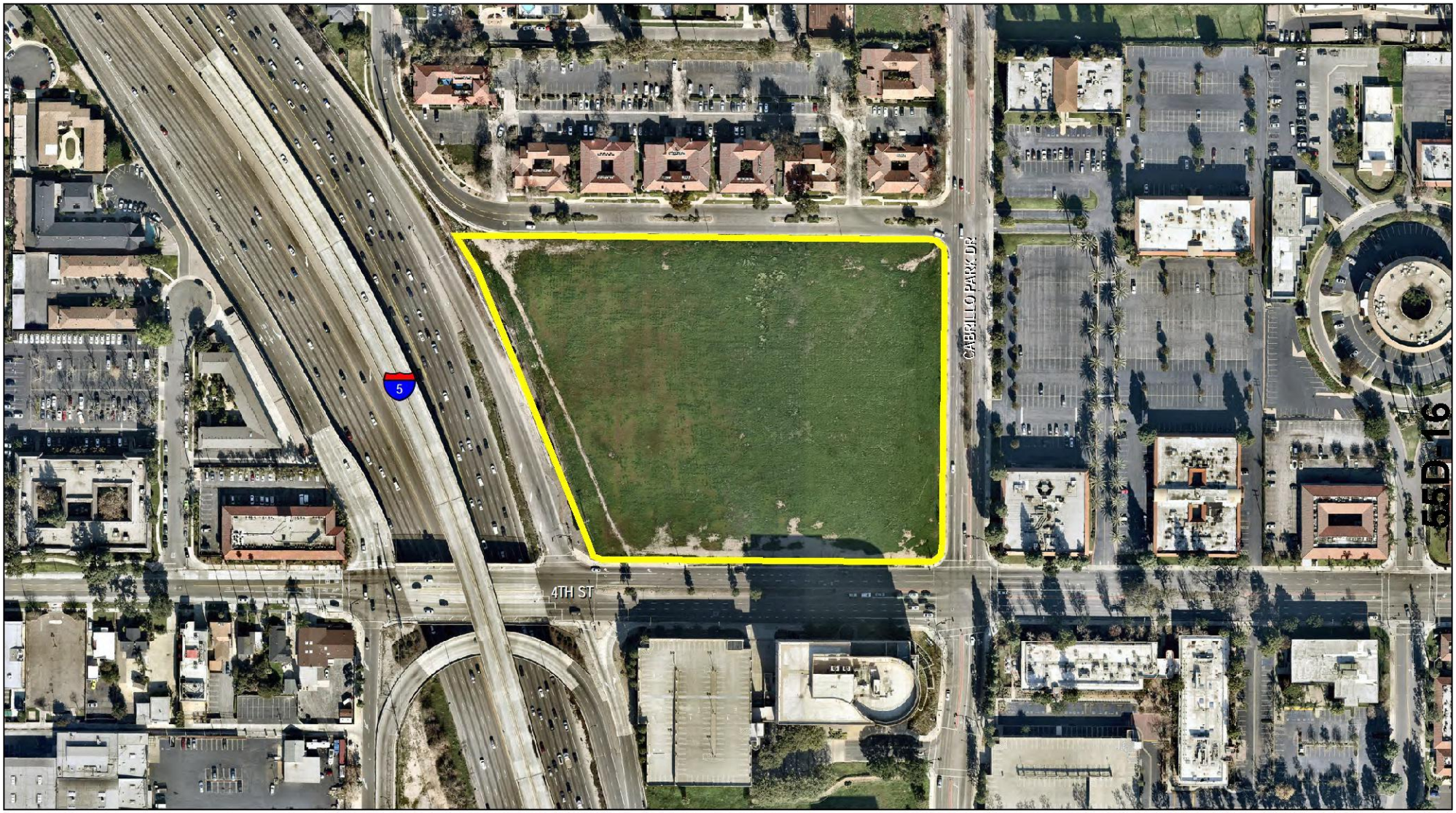
0 4,000 8,000 Feet

X:\Projects\1850\01\WSA\1_Vicinity_Map.mxd

2.1.1 Existing Water Use

As mentioned, the existing land use of the Project site is vacant. The vacant land area is not irrigated and is mainly barren soil and weeds. Therefore, there is currently no existing water demand at the Project site. See Figure 2 for an aerial image of the existing land uses at the proposed Project site.

An estimated annual difference between existing water demands and proposed water demands resulting from the proposed Project are calculated and shown in Section 2.1.2 below.



Basemap Aerial (World Imagery)

4th and Cabrillo Water Supply Assessment

City of Santa Ana

FUSCOE ENGINEERING

4th and Cabrillo Location

Figure 2
Project Aerial

4/23/2020

0 150 300 Feet

X:\Projects\1850\01\WSA\2_Aerial.mxd

2.1.2 Proposed Water Use

As mentioned, the proposed Project includes a total of 644 residential units comprised of 39 studios, 326 one-bedroom apartments, 248 two-bedroom apartments and 31 three-bedroom apartments. Amenities include fitness centers, clubrooms, rooftop pools, courtyards, and other lounging areas. In addition, 15,200 sf of retail space will be provided. Approximately 64,482 SF of open space is provided through common areas and the courtyards. See Figure 3 below for the proposed site plan for the Project.

Total Project residential water demands include estimates of both indoor and outdoor water demands. Indoor water demands include toilet-flushing, showers, baths, dishwashers, washing machines, faucets, and leakage. Outdoor water demands include landscape irrigation estimates. The estimates for residential water demands were developed by following the Municipal Water District of Orange County – Orange County Water Reliability Study (December 2016).

Table 2 Proposed Water Demands

Land Use Type	Project DU or acreage	Unit Water Demand[1]	Daily Water Usage (gpd)	Annual Water Usage (AFY)
Residential – Multifamily	644 DU	190 gpd/DU[1]	122,360	137.1
Commercial	0.35 acres	2,500 gpd/acre[2]	875	1.0
Landscaped Areas	1.48 acres	3,000 gpd/acre[2]	4,440	5.0
TOTAL PROJECT WATER DEMAND *644 RESIDENTIAL UNITS*			127,675 gpd	143.1 AFY

Notes
[1] Municipal Water District of Orange County – Orange County Water Reliability Study (December 2016).
[2] City of Santa Ana Design Guidelines for Water and Sewer Facilities (March 2017).

As shown, the proposed Project will have an annual water demand of approximately 143 AFY. This is an increase of approximately 143 AFY as compared to the existing water demands at the Project site. The following sections evaluates the ability for the City to meet the proposed increase in water demands.

55D-18

MJS LANDSCAPE ARCHITECTURE

WATERFORD PROPERTY COMPANY

ARNEL

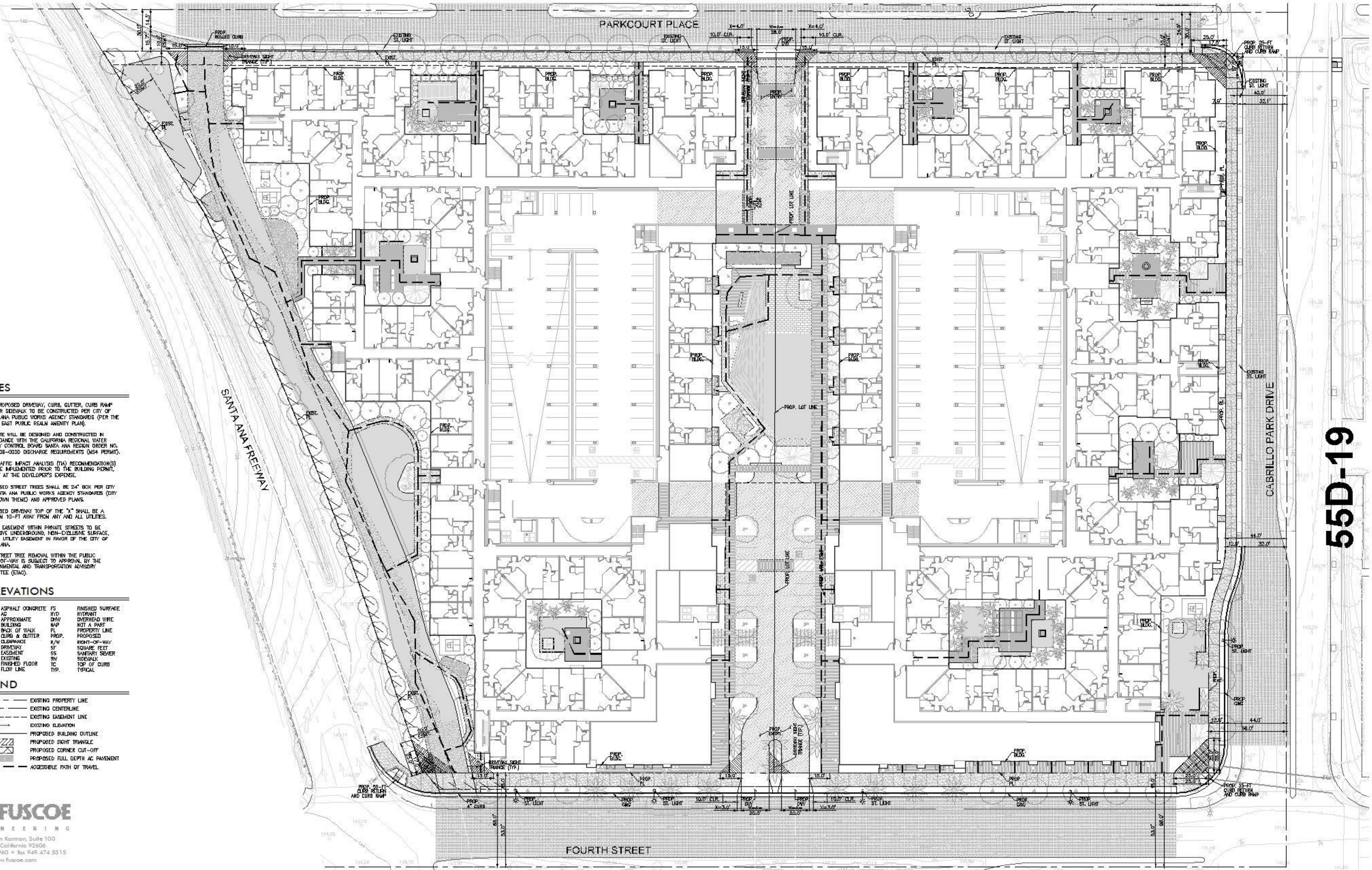
CENTRAL POINTE
SANTA ANA, CA

CONCEPTUAL DESIGN
FEBRUARY 28TH, 2020

SCALE: 1"= 30'

CONCEPT LANDSCAPE PLAN

L.1



NOTES

1. ANY PROPOSED DRIVEWAY, CURB, GUTTER, CURB RAMP AND/OR SIDEWALK TO BE CONSTRUCTED PER CITY OF SANTA ANA PUBLIC WORKS AGENCY STANDARDS (PER THE METRO EAST PUBLIC REALM AMENITY PLAN).
2. THE SITE WILL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SANTA ANA REGION ORDER NO. R8-2009-0030 DISCHARGE REQUIREMENTS (MS4 PERMIT).
3. ALL TRAFFIC IMPACT ANALYSIS (TIA) RECOMMENDATION(S) WILL BE IMPLEMENTED PRIOR TO THE BUILDING PERMIT, SOLELY AT THE DEVELOPER'S EXPENSE.
4. PROPOSED STREET TREES SHALL BE 24" BOX PER CITY OF SANTA ANA PUBLIC WORKS AGENCY STANDARDS (CITY DOWNTOWN THEME) AND APPROVED PLANS.
5. PROPOSED DRIVEWAY TOP OF THE "X" SHALL BE A MINIMUM 10-FT AWAY FROM ANY AND ALL UTILITIES.
6. UTILITY EASEMENT WITHIN PRIVATE STREETS TO BE EXCLUSIVE UNDERGROUND, NON-EXCLUSIVE SURFACE, PUBLIC UTILITY EASEMENT IN FAVOR OF THE CITY OF SANTA ANA.
7. ANY STREET TREE REMOVAL WITHIN THE PUBLIC RIGHT-OF-WAY IS SUBJECT TO APPROVAL BY THE ENVIRONMENTAL AND TRANSPORTATION ADVISORY COMMITTEE (ETAC).

ABBREVATIONS

AC	ASPHALT CONCRETE	FS	FINISHED SURFACE
ACRE	AC	HYD	HYDRANT
APPROX.	APPROXIMATE	OHW	OVERHEAD WIRE
BLDG.	BUILDING	NAP	NOT A PART
BW	BACK OF WALK	PL	PROPERTY LINE
C&G	CURB & GUTTER	PROP.	PROPOSED
CLR.	CLEARANCE	R/W	RIGHT-OF-WAY
DWY	DRIVEWAY	SF	SQUARE FEET
ESMT.	EASEMENT	SS	SANITARY SEWER
EXIST.	EXISTING	SW	SIDEWALK
FF	FINISHED FLOOR	TC	TOP OF CURB
FL	FLOW LINE	TYP.	TYPICAL

LEGEND

EXISTING PROPERTY LINE
EXISTING CENTERLINE
EXISTING EASEMENT LINE
EXISTING ELEVATION
PROPOSED BUILDING OUTLINE
PROPOSED SIGHT TRIANGLE
PROPOSED CORNER CUT-OFF
PROPOSED FULL DEPTH AC PAVEMENT
ACCESSIBLE PATH OF TRAVEL

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ktgy Architecture + Planning
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ktgy.com

WATERFORD PROPERTY COMPANY

ARNEL

CENTRAL POINTE
SANTA ANA, CA # 2019-0129

SCHEMATIC DESIGN
FEBRUARY 28, 2020

30' 0' 15' 30'
SCALE: 1" = 30'

N

SITE PLAN - IMPROVEMENTS

C2.0

55D-19

3. REGIONAL WATER SUPPLIES AND DEMANDS

3.1 CITY WATER SUPPLIES

The City's water supply comes from a combination of imported water, local groundwater and recycled water to satisfy water demands. The City purchases these water supplies from Metropolitan Water District of Southern California (Metropolitan) and the Orange County Water District (OCWD). The City is a member agency of Metropolitan and receives imported water from the State Water Project and the Colorado River under agreements with Metropolitan. OCWD manages the Orange County Groundwater Basin ("OC Basin" or "Basin") and provides groundwater resources to the City.

The City maintains 444 miles of transmission and distribution mains, nine reservoirs with a storage capacity of 49.3 million gallons, seven pumping stations, 20 wells, and seven imported water connections. The seven imported water connections to the Metropolitan System are described in Table 3 below.

Table 3 City of Santa Ana Connections to Metropolitan Facilities

MWD Connection	Name of Connection	Normal Operating Capacity (MGD)	Design Capacity (MGD)
SA-1	Bristol	5.17	6.46
SA-2	First	5.17	9.69
SA-3	McFadden	5.17	6.46
SA-4	Warner	4.85	6.46
SA-5	Alton	4.85	12.93
SA-6	Santa Clara	7.76	12.93
SA-7	Red Hill	4.85	32.31

From 2005-2015, Metropolitan delivered between 3,000 AF or 2.6 MGD (2015, lowest delivery) to 13,000 AF or 11.6 MGD (2005, highest delivery) to the City.[2] The design capacity of the Metropolitan connections is more than adequate to deliver imported to the City as shown in the table above.

The City's Water Utility provides water service within a 27-square mile service area. The service area includes the City of Santa Ana and a small neighborhood in the City of Orange, near Tustin Avenue and Fairhaven by the northeast corner of Santa Ana. See Table 4 which shows the City's recent water supply to satisfy demands from 2015.

[2] 2015 Metropolitan UWMP.

Table 4 2015 Projected and Actual Water Supply and Demand (Acre-feet)

Land Use Type	2010 UWMP Projected 2015 Demand	Actual 2015 Demand
Single Family	18,368	14,084
Multi-Family	13,563	10,399
Other (CII)	15,684	12,025
Landscape	185	147
Total	**47,800**	**36,656**

Notes:
Source: 2010 and 2015 City of Santa Ana UWMPs

As shown in Table 4 above, there was a decrease in water supplied to the City in 2015 as to what was predicted to be delivered in the 2010 UWMP (47,800 AF) by approximately 23%. This is likely due to Senate Bill (SB) x7-7 which requires the State of California to reduce urban water use by 20% by the year 2020 as described in more detail below. Similarly, the Executive Order mandated by California Governor Edmund "Jerry" Brown in April 2015 in response to the drought that started in 2011 further required a collective reduction in statewide urban water use of 25% which would also reduce Citywide demands. In addition, UWMPs are typically developed in a conservative manner and tend to overestimate future water demands.

Currently, 71% of the City's water supply is from OC Basin groundwater, 28% is from Metropolitan imported water and 1% is from recycled water. The City's water supply portfolio is expected to change slightly to 70% from OC Basin groundwater, 29% from Metropolitan imported water, and 0.7% recycled water by the year 2040 as discussed in more detail throughout this WSA. Additional details on the strategic management of these resources is explained below.

OCWD Groundwater

The primary source of water for the City is the Orange County Groundwater Basin ("OC Basin") which is managed by the Orange County Water District (OCWD). The OC Basin underlies the north half of Orange County beneath broad lowlands. The OC Basin covers an area of approximately 350 square miles, bordered by the Coyote and Chino Hills to the north, the Santa Ana Mountains to the northeast, the Pacific Ocean to the southwest, and terminates at the Orange County line to the northwest, where its aquifer systems continue into the Central Basin of Los Angeles County.

The OC Basin storage capacity is estimated to be 66 million AF[3], of which only a fraction is available for use to prevent against physical damage to the Basin such as seawater intrusion or land subsidence. To ensure the Basin is not overdrawn, OCWD recharges the Basin with local and imported water. The Basin is recharged primarily by four sources including local rainfall, storm and base flows from the Santa Ana River (SAR), purchased Metropolitan imported water; and highly treated recycled wastewater. Basin recharge occurs largely in the following recharge basins that are located in or adjacent to the City of Anaheim:

- Warner Basin: A 50-foot-deep recharge basin located next to the SAR at the intersection of the 55 and 91 freeways;

[3] OCWD Groundwater Management Plan 2015 Update. June 17, 2015.

- Burris Basin: Located between Lincoln Avenue and Ball Road in the City of Anaheim;
- Kraemer Basin: Located adjacent to Burris Pit;
- Santiago Creek: Located in the City of Orange between Villa Park Road and E. Bond Avenue.

As mentioned above, SB 1262 amended Section 10910 of the Water Code and requires the inclusion of SGMA-related information in WSAs. Specifically, following the SGMA basin prioritization and designations[4], for a non-adjudicated basin that is designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following must be included:

- Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924.
- If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

The OC Basin (also referred to as Basin 8-1) has been designated as a medium-priority basin which requires this WSA to address or include information regarding the bullets above. As mentioned, SGMA provides authority for agencies like OCWD to develop and implement Groundwater Sustainability Plans or alternative plans ("Alternatives") that demonstrate the basin has operated within its sustainable yield over a period of at least 10 years. OCWD decided to submit an Alternative for evaluation by the California Department of Water Resources (DWR). An Alternative is required to be submitted to DWR for review no later than January 1, 2017, and every 5 years thereafter. In general, Alternatives must be consistent with one of the following (Water Code §10733.6(b)):

- A plan developed pursuant to Part 2.75 (commencing with Section 10750) or other law authorizing groundwater management.
- Management pursuant to an adjudication action.
- An analysis of basin conditions that demonstrates that the basin has operated within its sustainable yield over a period of at least 10 years. The submission of an alternative described by this paragraph shall include a report prepared by a registered professional engineer or geologist who is licensed by the state and submitted under that engineer's or geologist's seal.

OCWD prepared an Alternative that satisfies the third bullet point above to prove the OC Basin has operated within its sustainable yield over a period of at least 10 years. This Alternative was approved at the by DWR level in July 2019. The Basin 8-1 Alternative is included in Appendix C of this WSA. The Alternative states that Basin 8-1 has operated within its sustainable yield for more than 10 years without experiencing significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) seawater intrusion, (5) inelastic land subsidence, or (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water. In addition, Basin 8-1 has not been in conditions of critical overdraft. DWR has one year to evaluate the Basin 8-1 Alterative. The paragraphs below will further explain how OCWD

[4] SGMA Groundwater Information Center Interactive Map Application, found here: https://gis.water.ca.gov/app/gicima/

successfully manages the OC Basin to meet these new groundwater monitoring and management requirements.

OCWD manages the Basin through the Basin Production Percentage (BPP) which is determined each water year. The BPP is set based on groundwater conditions, availability of imported water supplies, water year precipitation, SAR runoff, and basin management objectives. The BPP represents an established percentage identifying the amount of groundwater all pumpers in the Basin can pump without paying a "pumping tax" or Basin Equity Assessment (BEA) to OCWD. For example, if the BPP is set to 75%, all pumpers within the Basin, including the City, can supply 75% of their water needs from groundwater supplies at a cost significantly less than the cost of imported water. If groundwater production is equal to or less than the BPP (i.e. less than 75% in the example above), all producers within the Basin pay a replenishment assessment (RA) fee which is used to fund groundwater replenishment and recharge programs aimed at ensuring the long-term viability and stability of the Basin. If groundwater production is greater than the established BPP for that water year (i.e. greater than 75% in the example above), the BEA is determined for the producer of that amount of groundwater provided in excess of the BPP. The BEA is an additional fee paid on each AF of water pumped above the BPP, making the total cost of that additional water equal to the higher cost of imported water from Metropolitan.

According to OCWD's Engineer's Report for fiscal year 2017/18, the actual BPP was 75% as shown in Table 5 below. Total water demands within OCWD were 419,477 AF for the water year (July 1, 2017 to June 30, 2018). Groundwater production for the water year totaled 310,025 AF including any available In-Lieu Program water and excluding Metropolitan Groundwater Storage Program extractions. Groundwater stored in the basin increased by 51,000 AF. For the water year, the "annual overdraft" (annual basin storage decrease without supplemental replenishment water) was 195,000 AF. The accumulated overdraft was 277,000 AF on June 30, 2018. .[5] The table below shows the water production data from 2017/18 for the City of Santa Ana.

Table 5 City of Santa Ana Groundwater Production Data 2017-18

Groundwater Producer	Groundwater			Supplemental Water (AF)			(AF)	Actual BPP
	Non-Irrigation Pumping	Metropolitan CUP	Total	Delivery	Conservation Credit	Total	Grand Total	Non-Irrigation Only
City of Santa Ana	21,327	4,378	25,705	9,265	83	9,348	35,054	73.3%
Source: OCWD 2017-18 Engineer's Report								

Over the recent past, production capability of the Basin has increased as a result of increased wastewater reclamation at the Groundwater Replenishment System (GWRS) located in Fountain Valley. The GWRS, which is designed to turn wastewater into drinking water, is one of the most technologically advanced wastewater treatment plants in the world. A treatment plant expansion of 30 million gallons per day was recently put on line by OCWD increasing the recharge capacity of the GWRS to 100 million gallons per day. This equates to the recycling of over 110,000 AFY of wastewater back into the Basin for future extraction and potable use. A final

[5] OCWD. Engineer's Report, 2017/18, April 2019.

expansion of the treatment system is being designed to have a capacity of 130 million gallons per day. Expansion projects to the GWRS increase local water supply reliability and ensure low-cost water supplies throughout northern Orange County, including the City of Santa Ana.

Metropolitan Imported Water

The City of Santa Ana is one of only three retail member agencies of Metropolitan in Orange County. As a member agency, pursuant to the Metropolitan Act, the City has preferential rights to a certain percentage of water delivered to Metropolitan each year primarily from the State Water Project and/or the Colorado River Aqueduct as well as other Metropolitan storage programs. Being a member agency of Metropolitan puts the City in a better position relative to receiving water directly from Metropolitan, as opposed to other agencies in Orange County which obtain their imported Metropolitan water through Municipal Water District of Orange County (MWDOC). The main sources of water Metropolitan provides to the City include water from northern California delivered via the State Water Project (SWP) and water from the Colorado River Basin delivered via the Colorado River Aqueduct. More details on these sources of imported water are explained below.

Colorado River

The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. Lake Mead and Lake Powell, the two largest reservoirs in the United States, can store 4 times the annual flow of the Colorado River. River flows are primarily generated from snowpack in the Rocky Mountains. Colorado River water is allocated and delivered to seven states in the US including Colorado, Utah, Wyoming, New Mexico, Arizona, Nevada and California. Mexico also has an allocation of 1.5 million acre-feet (MAF) along the Colorado River each year.

California's urban water allocation is managed by Metropolitan and imported from the Colorado River via the Colorado River Aqueduct (CRA) which is stored at Diamond Valley Lake and Lake Mathews in Riverside County. The CRA includes supplies from the implementation of the Quantification Settlement Agreement (QSA) and related agreements to transfer water from agricultural agencies in Imperial County to urban uses throughout Southern California including Los Angeles, Orange County and San Diego. The 2003 QSA enabled California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for 75 years and reducing the state's demand on the river to its 4.4 MAF entitlement. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.25 MAF on an as-needed basis.

California is apportioned the largest allocation on the River of 4.4 MAF of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to but not used by Arizona or Nevada. Metropolitan has a basic entitlement of 550,000 AFY of Colorado River water, plus surplus water up to an additional 662,000 AFY if certain conditions exist. The remainder of California's allocation goes to Imperial County, primarily to the Imperial Irrigation District, and is used mainly for agriculture production.

Over the past 16 years (2000-2015), there have only been three years when the Colorado River flow has been above average.[6] The long-term imbalance in future supply and demand is projected to be approximately 3.2 MAF by the year 2060. Actions are currently being taken and planned in the future to resolve the imbalance between water supply and demand in areas that use Colorado River water. Such actions include the resolution of uncertainties related to water conservation, reuse, water banking, and weather modification concepts.[7]

State Water Project

The State Water Project (SWP) collects water from rivers in Northern California and redistributes it to the water-scarce but populous central and southern portions of California through a network of aqueducts, pumping stations and power plants. Approximately 70% of the water provided by the SWP is used for urban areas and industry in Southern California and the San Francisco Bay Area, and 30% is used for irrigation in the Central Valley. The availability of water supplies from the SWP can be highly variable. A wet water year may be followed by a dry water year which restricts the amount of water that can be delivered throughout California. Metropolitan's SWP imported water is stored at Castaic Lake on the western side of Metropolitan's service area and at Silverwood Lake near San Bernardino, as well as in Diamond Valley Lake.

The Sacramento-San Joaquin River Delta (Delta) is key to the SWP's ability to deliver water to its agricultural and urban contractors. The Delta faces many challenges concerning its long-term sustainability such as climate change posing a threat of increased variability in floods and droughts. Sea level rise complicates efforts in managing salinity levels and preserving water quality in the Delta to ensure a suitable water supply for urban and agricultural use. Furthermore, other challenges include continued subsidence of Delta islands, many of which are below sea level, and the related threat of a catastrophic levee failure as the water pressure increases, or as a result of a major seismic event.

Metropolitan's Board approved a Delta Action Plan in June 2007 that provides a framework for staff to pursue actions with other agencies and stakeholders to build a sustainable Delta and reduce conflicts between water supply conveyance and the environment. The Delta action plan aims to prioritize immediate short-term actions to stabilize the Delta while an ultimate solution is selected, and mid-term steps to maintain the Delta while a long-term solution is implemented. Currently, Metropolitan is working towards addressing three basic elements: Delta ecosystem restoration, water supply conveyance, and flood control protection and storage development.

In April 2015, the Brown Administration announced California WaterFix, as well as a separate ecosystem restoration effort called California EcoRestore (formerly known as the Bay Delta Conservation Plan). Together, the California WaterFix and California EcoRestore would make significant contributions toward achieving the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The WaterFix was aimed at making physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, south-of-Delta SWP water supplies, and water quality.

[6] 2015 Metropolitan UWMP.
[7] 2012 USBR Colorado River Basin Water Supply and Demand Study.

In May 2019, the Newsom Administration revised their stance on the WaterFix in response to multiple legal challenges. The revised project would include the construction of one tunnel instead of the previously proposed two-tunnel system. At this time, the DWR and the US Bureau of Reclamation (BOR) have withdrawn their water rights petition (the WaterFix Petition) and the project has been postponed indefinitely.

Recycled Water

The City depends on OCWD for its recycled water supply for non-potable uses such as irrigation. OCWD provided 352 AF of recycled water to the City of Santa Ana in 2015 as part of the Green Acres Project (GAP). OCWD owns and operates the GAP, a water recycling system that provides up to 8,400 AFY of recycled water as an alternate source of water that is mainly delivered to parks, golf courses, greenbelts, cemeteries, and nurseries in the cities of Costa Mesa, Fountain Valley, Newport Beach, in addition to Santa Ana. The City maintains an agreement with OCWD to supply GAP water to customers where available. It is anticipated that recycled water supplied to the City will maintain around 300 AFY through 2040.

3.2 CITY WATER DEMANDS

The City's Water Utility provides water service within a 27-square mile service area to a population of approximately 335,299 as of 2015.[8] . The City is almost completely built-out and its population is projected to increase only 0.9% by 2040. Approximately 67% of the City's water demand is residential including single family and multi-family residential units. Commercial land uses, including dedicated landscape, accounts for the remaining 33% of the total demand. The 2015 UWMP[9] highlighted that water demands throughout the City were 36,656 AF from July 2014 to June 2015. The 2010 UWMP anticipated water demands in 2015 to be much larger at 47,800 AF. As mentioned, the difference is likely because of the mandatory water restrictions from the Governor's Executive Order and the fact that UWMPs are typically developed in a conservative manner and tend to overestimate future water demands.

In April 2015 Governor Brown issued an Executive Order as a result of one of the most severe droughts in California's history, requiring a collective reduction in statewide urban water use of 25% by February 2016, with each agency in the state given a specific reduction target by DWR. In response to the Governor's mandate, the City began to track its water wasting prohibition enforcement activities. On June 2, 2015, the City declared a Phase 2 water supply shortage in Resolution No. 2015-025 by formally requiring all water consumers to reduce use by 12% relative to their 2013 consumption. Additionally, on August 4, 2015, a water wasting penalty rate was established by Resolution No. 2015-047. This new penalty rate permits City staff to penalize those users not meeting their water use reduction targets of 12%. The City of Santa Ana as a whole met its State mandated target; as a result, the City did not have to impose any monetary penalties on any of its users.

As of April 7, 2017, Governor Brown ended the drought State of Emergency in most of California, while maintaining water reporting requirements and prohibitions on wasteful

[8] Center of Demographics Research (CDR) at California State University, Fullerton
[9] 2015 City of Santa Ana Urban Water Management Plan. Found here: https://www.santa-ana.org/sites/default/files/Documents/urban_water_management_plan.pdf

practices such as watering during or right after rainfall.[10] The City continues to promote water use efficiency and currently has a goal to continue to reduce water demands by 3% compared to 2013 consumption. In addition, the City only allows outdoor watering to every other day or Monday, Thursday, and Saturday and only between the hours of 6 PM and 6 AM.[11]

Such restrictions have significantly reduced water demands throughout California. In addition to these mandated restrictions, cities must follow the Water Conservation Act of 2009, also known as Senate Bill (SB) x7-7. This law required the State of California to reduce urban water use by 20% by the year 2020. The City must determine baseline water use during their baseline period and water use targets for the years 2015 and 2020 to meet the state's water reduction goal. The City's 2015 target was 123 gallons per capita per day (GPCD) and the 2020 target is 116 GPCD. The 2015 UWMP reported that the City has already met both the 2015 and 2020 water use targets with an actual use in 2015 of 83 GPCD. This is likely due to increased conservation as required by the Governor's Executive Order during severe drought conditions throughout California.

The City's water demand has been decreasing in recent years due to the combination of the Governor's Executive Order and SBx7-7 goals. The City's water demands are then expected to increase by approximately 8% from 2015 to 2040 as shown in the table below.

Table 6 City of Santa Ana Projected Total Water Demands

Water Demand Type	2015	2020	2025	2030	2035	2040
Potable and Raw Water	36,656	36,678	39,397	39,669	39,658	39,716
Recycled Water	352	320	320	320	320	320
Total Water Demand	**37,008**	**36,998**	**39,717**	**39,989**	**39,978**	**40,036**
Source: 2015 City of Santa Ana UWMP						

As shown above, it is projected that water demands will increase from 37,008 AF in 2015 to 40,036 AF in year 2040. These estimates are approximately 10,000 AF less than what was predicted in the 2010 UWMP further highlighting the conservative nature of UWMP preparation.

The 2015 Metropolitan UWMP stated that Metropolitan would be able to meet the demands of its member agencies, including the City of Santa Ana, through 2040. Therefore, imported water demands for the City are projected to be met through the 20-year requirements of SB 610 and beyond. The City of Santa Ana 2015 UWMP also confirmed the ability of the local supplies and the OC Basin to meet the growing demands of the City. The ability for the City to meet these growing demands in multiple climate scenarios is explained in the sections below.

[10] SWRCB Water Conservation Portal – Emergency Conservation Regulation, accessed on 10/01/2019. Found here: http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/emergency_regulation.shtml

[11] City of Santa Ana – Water Conservation Website, accessed 10/01/2019. Found here: https://www.santa-ana.org/sites/default/files/Documents/Drought_Flyer_Final_Eng_No_Cropmarks.pdf

4. REGIONAL WATER SUPPLY RELIABILITY

The City of Santa Ana currently depends on Metropolitan and local groundwater resources to provide the majority of its water supply. This section provides a description of the ability of Metropolitan, OCWD and the City to ensure that adequate water supplies will be available to satisfy the City's growing water demands including the proposed Project through 2040 during normal, single dry year and multiply dry year scenarios.

4.1 METROPOLITAN WATER DISTRICT REGIONAL WATER SUPPLY RELIABILITY

Metropolitan's 2015 Urban Water Management Plan (UWMP) was finalized in June 2016 and has been prepared in compliance with Water Code Sections 10608.36 of SB X7-7 and Sections 10610 through 10656 of the Urban Water Management Planning Act (Act). The information included in the 2015 UWMP represents the most current and available planning projections of supply capability and demand developed through a collaborative process with the member agencies, including the City of Sana Ana. The Act requires reporting agencies to describe their water reliability under a single dry-year, multiple dry-year, and average year conditions, with projected information in five-year increments for 20 years.

Metropolitan updates its retail municipal and industrial (M&I) projection periodically based on the release of official regional demographic and economic projections. The projections of retail M&I water demands used in the 2015 UWMP are based on data from the Southern California Association of Governments (SCAG) 2012 Regional Transportation Plan/Sustainable Community Strategy (April 2012) and the San Diego Association of Governments (SANDAG) Series 13: 2050 Regional Growth Forecast (October 2013). The projected regional water demand is adjusted to account for water conserved by Best Management Practices from active, code-based, and price-effect conservation.

Supply analysis includes Colorado River supplies, SWP supplies and existing and proposed storage programs through Metropolitan's service area. Colorado River Aqueduct (CRA) supplies include supplies that would result from existing and committed programs and from implementation of the Quantification Settlement Agreement (QSA) and related agreements. State Water Project (SWP) supplies are estimated using the 2015 SWP Delivery Capability Report distributed by DWR in July 2015. In regard to storage, Metropolitan assumed 2015 storage levels at the start of simulation and used the median storage levels going into each of the five-year increments based on the balances of supplies and demands. See Table 7 below showing Metropolitan's ability to meet growing demands in normal, single-dry and multiple-dry year climate scenarios.

Table 7 Metropolitan Multiple Climate Scenario Water Supply Capability and Projected Demands Comparison from 2020-2040 (AF)

Forecast Year	2020	2025	2030	2035	2040
Normal Year					
Capability of Current Supply	3,448,000	3,550,000	3,658,000	3,788,000	3,824,000
Total Demands	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
Supply Programs Under Development	63,000	100,000	386,000	428,000	468,000
Total Potential Surplus	1,651,000	1,732,000	2,085,000	2,208,000	2,245,000
Single -Dry Year					
Capability of Current Supply	2,584,000	2,686,000	2,775,000	2,905,000	2,941,000
Total Demands	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
Supply Programs Under Development	63,000	100,000	316,000	358,000	398,000
Total Potential Surplus	642,000	720,000	983,000	1,103,000	1,138,000
Multiple-Dry Year					
Capability of Current Supply	2,103,000	2,154,000	2,190,000	2,242,000	2,260,000
Total Demands	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
Supply Programs Under Development	43,000	80,000	204,000	245,000	286,000
Total Potential Surplus	145,000	116,000	223,000	271,000	288,000
Source: 2015 Metropolitan UWMP					

The findings of the 2015 Metropolitan UWMP highlight that Metropolitan has supply capabilities that would be sufficient to meet expected demands from 2020 through 2040 under the normal, single dry-year and multiple dry-year conditions. Metropolitan also has proposed programs in place to ensure against water shortages in the future. These programs include projects along the California Aqueduct and the Colorado River Aqueduct in addition to demand reduction projects. In all climate scenarios, Metropolitan estimates potential surpluses in water supply through 2040.

The Metropolitan 2015 UWMP was made public in early 2016 and shared with Metropolitan's member agencies. Once these findings were finalized, the Metropolitan member agencies could conclude their own 2015 UWMP findings. The City of Santa Ana published their 2015 UWMP in April 2016 after determining Metropolitan would be able to meet the City's imported water demands through 2040. The City of Santa Ana and OCWD local water supply reliability is summarized below.

4.2 OCWD AND CITY OF SANTA ANA LOCAL WATER SUPPLY RELIABILITY

Like Metropolitan, the City of Santa Ana is also required to assess the reliability of their water service to its customers under normal, single-dry and multiple-dry water years. As mentioned, the City depends on a combination of imported water from Metropolitan and local groundwater supplies from OCWD to meet its water demands. The City has taken numerous steps to ensure it has adequate supplies to provide for growing demands.

The City has several water demand reduction requirements and resources on their website that informs its customers on how to save water. Some of the main requirements are summarized below:

- Residential
  - Mandatory 3% reduction in water use compared to usage during the same billing period in 2013.
  - Outdoor watering is restricted to no more than every other day or Mondays, Thursdays and Saturdays, and only between the hours of 6 p.m. and 6 a.m.*
  - Leaks must be repaired within 48 hours of notification by the City.
  - No washing down sidewalks or driveways.
  - No excessive water flow or runoff that causes water to flow onto an adjoining sidewalk, driveway, street, alley, gutter or ditch.
  - No washing vehicles with a hose, unless the hose is fitted with a shut-off nozzle.
  - No operating a fountain or decorative water feature, unless the water is part of a recirculating system.
  - No outdoor watering during and 48 hours following measurable rainfall.

- Businesses
  - Restaurants, cafes and bars can only serve water to customers on request.
  - Hotels and motels must prominently display a notice providing guests with the option of choosing not to have towels and linens laundered daily.

In addition, landscape policies have also been modified to allow drought tolerate landscape throughout the City (see Appendix B). These programs have been successful in reducing water demands throughout the City's service area.

OCWD is also taking strides to ensure local water supplies will meet growing demands now and into the future. As mentioned, OCWD manages the City's groundwater supply and the entire OC Basin utilizing the BPP approach. In 2013, OCWD's Board of Directors adopted a policy to establish a stable BPP with the intention to work toward achieving and maintaining a 75 percent BPP by FY 2015-16. Although BPP is set at 75 percent, based on discussions with OCWD a conservative BPP of 70 percent is assumed through 2040 for supply projection analysis in the City's 2015 UWMP. Principles of this policy include:

- OCWD's goal is to achieve a stable 75 percent BPP, while maintaining the same process of setting the BPP on an annual basis (BPP will be set in April of each year after a public hearing has been held and based upon the public hearing testimony, presented data, and reports provided at that time).
- OCWD's transition to the 75 percent BPP was due to construction of the GWRS Initial Expansion Project, which was completed in 2015. This expansion provided an additional 31,000 AFY of water for recharging the groundwater basin.
- OCWD must manage the OC Basin in a sustainable manner for future generations. The BPP will be reduced if future conditions warrant the change.

- Each project and program to achieve the 75 percent BPP goal will be reviewed individually and assessed for their economic viability.

The BPP goals mentioned above coincide with other management strategies as shown in OCWD's Long Term Facilities Plan (LTFP), the 2015 Groundwater Management Plan and the 2020 Water Master Plan Report. These documents highlight OCWD's plans to ensure groundwater supply will be available into the future to support growing demands of its service area.

As shown in Table 8 below, the City's available supply, including OCWD groundwater and Metropolitan imported water, will meet projected demand during normal, single dry and multiple dry years. For the City's 2015 UWMP, the normal dry year was selected as the City's 2015 demand. A single-dry year is defined as a single year of no to minimal rainfall within a period that average precipitation is expected to occur. The City has documented that it is 100% reliable for single dry year demands from 2020 through 2040 with a demand increase of 6% using FY 2013-14 as the single dry-year. Multiple-dry years are defined as three or more years with minimal rainfall within a period of average precipitation. The City is capable of meeting all customers' demands with significant reserves held by Metropolitan, local groundwater supplies, and conservation in multiple dry years from 2020 through 2040 with a demand increase of 6% using FY 2011-12 through FY 2013-14 as the driest years.

Table 8 City of Santa Ana Multiple Climate Scenario Water Supply and Demand Comparison from 2020-2040 (AF)

Forecast Year	2020	2025	2030	2035	2040
Normal Year					
Supply totals	36,998	39,717	39,989	39,978	40,036
Demand totals	36,998	39,717	39,989	39,978	40,036
Single -Dry Year					
Supply totals	39,218	42,100	42,388	42,377	42,438
Demand totals	39,218	42,100	42,388	42,377	42,438
Multiple-Dry Year					
First year					
Supply totals	39,218	42,100	42,388	42,377	42,438
Demand totals	39,218	42,100	42,388	42,377	42,438
Second year					
Supply totals	39,218	42,100	42,388	42,377	42,438
Demand totals	39,218	42,100	42,388	42,377	42,438
Third year					
Supply totals	39,218	42,100	42,388	42,377	42,438
Demand totals	39,218	42,100	42,388	42,377	42,438
Source: 2015 City of Santa Ana UWMP					

As shown in Table 8 above, in all climate scenarios analyzed in the 2015 UWMP, available water supplies are projected to meet demands. Reliability of local water supplies will be ensured through continued implementation of the OCWD Groundwater Management Plan, OCWD's LTFP, and the combined efforts and programs among member agencies of Metropolitan.

The City closely monitors development throughout the City to ensure water supplies will meet growing demand. The City has a log of all developments that have required a WSA and track the increases in water demands from these projects. These projects are listed below:

- Civic Center Facilities Project WSA (November 2016)
- Elan Apartments Project WSA (November 2017)
- MainPlace Mall Project WSA (April 2019)
- The Bowery Project WSA (August 2020)

The 4th and Cabrillo Project has been added to the City's list of proposed developments. The Project is anticipated to be constructed and operational in 2022. As shown in Table 9 below, the City is able to provide water supply to satisfy these additional projects including the 4th and Cabrillo.

Table 9 City of Santa Ana Ability to Supply the 4th and Cabrillo Project

Description	2020	2025	2030	2035	2040
Demands for Potable Water by Use Types (Acre-foot per year)					
Use Type "Single Family" Demand	14,093	15,138	15,242	15,238	15,260
Use Type "Multi-Family" Demand	10,406	11,177	11,254	11,251	11,267
Use Type "Other" (CII) Comm/Instit/Indust Demand	12,033	12,925	13,014	13,010	13,030
Use Type "Landscape" Demand	147	158	159	159	159
Total Potable Water Demands	*36,679*	*39,398*	*39,669*	*39,658*	*39,716*
Accumulative Additional Demands for Potable Water by Use Type (Acre-foot per year)					
Accumulative "Single Family" Additional Demand	9	1,054	1,158	1,154	1,176
Accumulative "Multi-Family" Additional Demand	7	778	855	852	868
Accumulative "Other" Additional Demand	8	900	989	985	1,005
Accumulative "Landscape" Additional Demand	--	11	12	12	12
Accumulative Additional Total Demand	*24*	*2,743*	*3,014*	*3,003*	*3,061*
Demands of Additional Projects Requiring Water Supply Assessment (Acre-foot per year)					
Civic Center Facilities Project and WSA					
Civic Center Facilities Strategic Plan Project Additional Demand	158	385	576	770	770
Elan Project and WSA					
Elan Project Additional Demand	195	195	195	195	195
The MainPlace Mall Project and WSA					
The MainPlace Mall Project Additional Demand	62	371	618	618	618
4th and Cabrillo Project and WSA					
4th and Cabrillo Project Additional Demand	*0*	*143*	*143*	*143*	*143*
The Bowery Project and WSA					
The Bowery Project Additional Demand	*0*	*269*	*269*	*269*	*269*
Comparison of Accumulative Additional Total Demand to Demands from Proposed WSAs					
Accumulative Additional Demand less Proposed WSA Demands	-391	1,380	1,213	1,008	1,066
Notes: *Source: Personal Communication, City of Santa Ana Water Utility, April 20, 2020*					

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As shown above, the UWMP and City water planning identifies sufficient water supplies to serve the Project in addition to other planned projects through 2040. As shown above, a small deficit of 391 AF (approximately 1% of total demands) is projected for the year 2020. These demand/supply numbers come from projections calculated within the City's UWMP. However, as the Project will not be constructed until after 2020, there will be no additional deficit. In addition, as mentioned throughout this WSA, UWMPs are conservative in nature and tend to overpredict demand as described in Section 3.1 and Table 4. As confirmed by the City's Water Utility department, the deficits shown in Table 9 during the year 2020 would not occur due to the substantial decrease in demand over the past several years.

5. CONCLUSION

The City of Santa Ana depends on local and regional water supplies from OCWD and Metropolitan to satisfy growing demands. OCWD has managed the OC Basin for over 75 years and has plans to sustainably manage the groundwater system through 2040 under the new California SGMA policies and guidelines. Metropolitan has stated in its 2015 UWMP that its water supply portfolio will be able to satisfy regional growth and water demands through 2040. The same findings were concluded in the City of Santa Ana 2015 UWMP as both Metropolitan and OCWD supplies are projected to meet future water demands.

The 2015 City UWMP projected that water demands would grow from 37,008 AF in 2015 to 40,036 AF in 2040. Over the past several years, actual demands decreased substantially to due to local conservation and regional drought management regulations. Therefore, like most UWMPs, the 2015 City UWMP is conservative with projections of water supplies needed to satisfy demands through 2040.

The 2015 UWMP incorporates regional growth projections from CDR in order to determine future water demands. Projects like 4th and Cabrillo are included in these regional projections of future population growth and are tracked by the City. The proposed Project will demand approximately 143 AF per year (an increase of approximately 143 AF per year as compared to existing water demands) which is well within the planned water supplies needed in the future in the City of Santa Ana. Therefore, this WSA is able to conclude adequate supplies are available to provide for the demands of the proposed Project as well as other service area demands within the City of Santa Ana.

6. REFERENCES

2010 City of Santa Ana Urban Water Management Plan.

2012 USBR Colorado River Basin Water Supply and Demand Study

2015 Metropolitan of Southern California Urban Water Management Plan

2015 City of Santa Ana Urban Water Management Plan

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7. TECHNICAL APPENDICES

Appendix A – Proposed Project Water Demand Calculations
Appendix B – Landscape Water Efficiency Ordinance No. 6355
Appendix C – SGMA Basin 8-1 Alternative Plan

APPENDIX A

PROPOSED PROJECT WATER DEMAND CALCULATIONS

Land Use Type	Project DU or acreage	Unit Water Demand	Daily Water Usage (gpd)	Annual Water Usage (AFY)
Residential - Multifamily	644 DU	190 gpd/DU	122,360	137.1
Commercial	0.35 acres	2,500 gpd/acre[2]	875	1.0
Landscaped Areas	1.48 acres	3,000 gpd/acre[2]	4,440	5.0
		Totals	127,675	143.1

Notes
1 Municipal Water District of Orange County – Orange County Water Reliability Study (December 2016)
2 City of Santa Ana Design Guidelines for Water and Sewer Facilities (March 2017)

APPENDIX B

CITY OF SANTA ANA LANDSCAPE GUIDELINES

Planning and Building Agency
Planning Division
20 Civic Center Plaza
P.O. Box 1988 (M-20)
Santa Ana, CA 92702
(714) 647-5804
www.santa-ana.org

CALIFORNIA FRIENDLY LANDSCAPE GUIDELINES

In response to the extreme drought conditions throughout California, and the drought State of Emergency declared by the Governor in 2014, landscape policies have been modified to allow drought tolerant landscape throughout the city. The following are the Planning Division policy guidelines for required landscape planting and "ground cover" on private property:

1. 100% of the required landscape for private property MUST be covered with materials such as plants, compost and mulch, and permeable "hardscape" – with the exception of approved driveways and walkways. Refer to property zoning district for minimum of trees and shrubs. http://www.ci.santa-ana.ca.us/pba/planning/ZoningDocuments.asp

2. **Plant material must cover at least 65%** of the required landscape area.

    a. The Landscape Plan MUST be designed such that it can reasonably be assumed that at least 65% of the site will be covered with plant material by the time the plants are mature, or within two years, whichever is sooner. This determination will be made at the sole discretion of Planning and Building Agency staff. Synthetic turf may be installed, provided it does not exceed 50% of the area designated as plant material for the yard. For more details on synthetic turf landscape plan requirement see http://www.santa-ana.org/pba/planning/documents/Synthetic_turf_standards.pdf

    b. Plant material is to be dispersed throughout the landscape area.

3. **Permeable hardscape may cover no more than 35%** of the required landscape area.

    a. Permeable hardscape may include pavers and brick set on a bed of sand, where no mortar or grout has been used.

    b. If not covered by permeable hardscape or plant material, landscape must be completely covered by at least a two-inch layer of mulch. Acceptable mulch includes compost, bark and other organic material. There can be no bare soil or installation of non-permeable (material water cannot easily penetrate) hardscape such as a concrete patio or walkway.

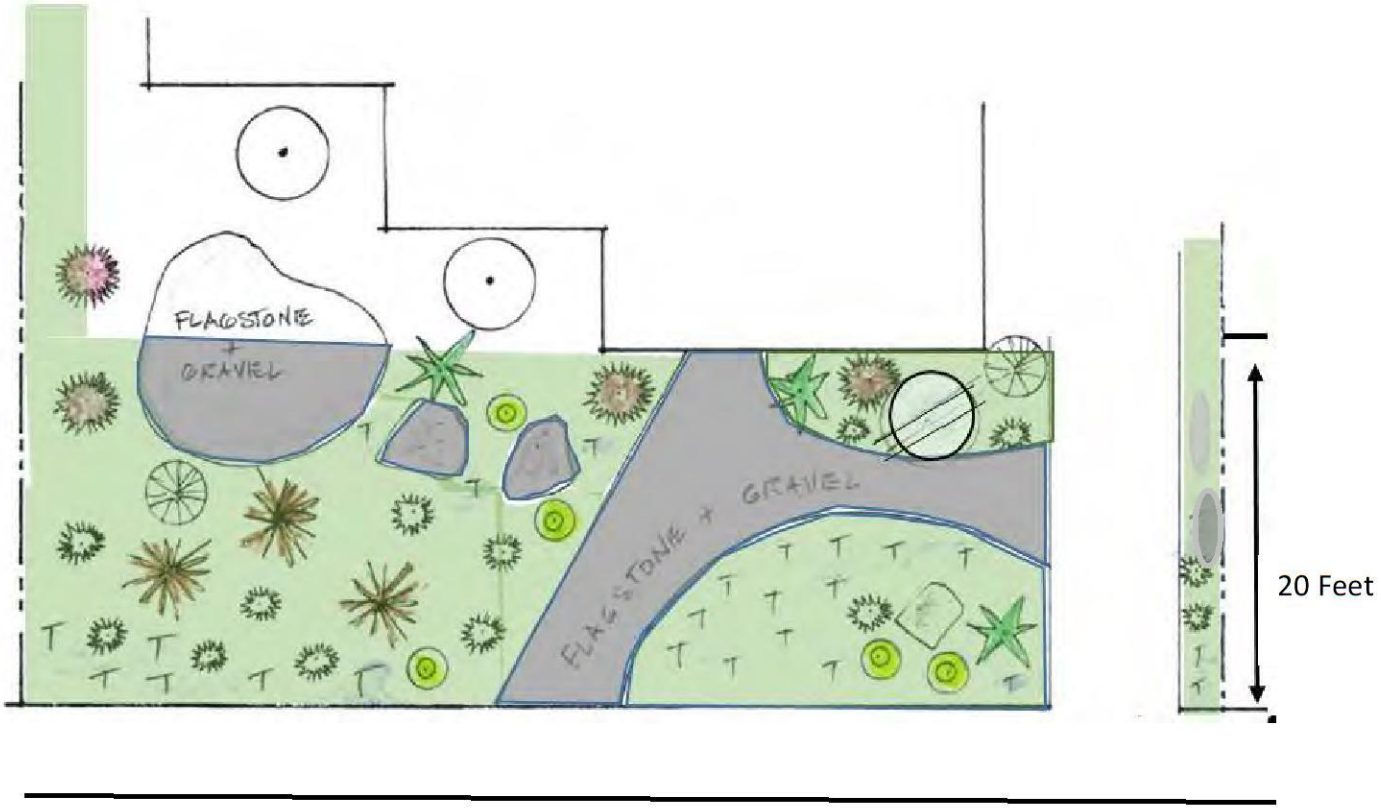
    c. Permeable hardscape adjacent to approve driveways shall not be used for parking of vehicles. Permeable hardscape is to no greater than two percent slope to allow for draining of water into the soil.

4. All plant materials selected from these two websites (LA Coastal Gardens and www.bewaterwise.com) are acceptable drought tolerant plants.

5. Irrigation systems should also be adjusted to be water efficient through best practices (drip irrigation, bubblers, etc.)

Additional information and a variety of resources for creating and maintaining a California Friendly garden are available at http://www.santa-ana.org/SAwatersmart/. For more information about landscaping your **parkway**, is please see the "Quick Links" for the Parkway Improvement Guidelines.

Sample of landscape planting and permeable hardscape



Landscape Plants
(65% minimum)

Permeable Hardscape
(35% maximum)

Single Family Residences (R1 zoning district) requires: 20 feet landscape setback for front yard; to include one 24-inch box canopy tree, six 5-gallon shrubs, ten 1-gallon shrubs (SAMC 41-240) and "ground cover" (per 2014 City California Friendly Landscape Guideline). A five feet landscape setback is also required for side yards, with the exception of approved walkway or driveway.

APPENDIX C

SGMA BASIN 8-1 ALTERNATIVE PLAN

Basin 8-1 Alternative

**Reduced Version. Full document found here:
https://www.ocwd.com/media/4918/basin-8-1-alternative-final-report-1.pdf

Submitted by: Orange County Water District
City of La Habra
Irvine Ranch Water District

Submitted to: California Department of Water Resources

January 1, 2017

BASIN 8-1 ALTERNATIVE OVERVIEW

The Sustainable Groundwater Management Act (SGMA) requires all high- and medium-priority basins, as designated by the Department of Water Resources (DWR), be sustainably managed. DWR designated the Coastal Plain of Orange County Groundwater Basin ("Basin 8-1" or "Basin") as a medium-priority basin, primarily due to heavy reliance on the Basin's groundwater as a source of water supply.

Compliance with SGMA can be achieved in one of two ways:

1) A Groundwater Sustainability Agency (GSA) is formed and a Groundwater Sustainability Plan (GSP) is adopted, or
2) Special Act Districts created by statute, such as OCWD, and other agencies may prepare and submit an Alternative to a GSP.

The agencies within Basin 8-1 have agreed to collaborate together in order to submit an Alternative to a GSP. Within this document, this Alternative to a GSP will be referred to herein as the "Basin 8-1 Alternative" or "Alternative". In accordance with Water Code §10733.6(b)(3), this Alternative presents an analysis of basin conditions that demonstrates that the Basin has operated within its sustainable yield over a period of at least 10 years. In addition, the Alternative establishes objectives and criteria for management that would be addressed in a GSP and is designed to be "functionally equivalent" to a GSP. As will be shown in the Basin 8-1 Alternative, Basin 8-1 has been operated within its sustainable yield for more than 10 years without experiencing significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) seawater intrusion, (5) inelastic land subsidence, or (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water. Please note that the boundaries of Basin 8-1 described in this document are based on the scientific boundary modifications as accepted by DWR in 2016 as part of the Basin Boundary Modification Process.

The Basin 8-1 Alternative has been jointly prepared by the Orange County Water District (OCWD), Irvine Ranch Water District (IRWD); and the City of La Habra (collectively the "Submitting Agencies"); pursuant to this Alternative, the Submitting Agencies will ensure the entire Basin 8-1 continues to be sustainably managed and data reported as required by SGMA. Other agencies within Basin 8-1 and at least partially outside of OCWD's boundaries support submission of the Basin 8-1 Alternative and either have participated in preparing the Alternative and/or reviewed the Alternative. These agencies include the cities of Brea, Corona, and Chino Hills; the Counties of Orange, Riverside, and San Bernardino; Yorba Linda Water District; and El Toro Water District. Pursuant to Water Code §10733.6(b)(3), the Basin 8-1 Alternative has been prepared by or under the direction of a professional geologist or professional engineer.

For the purpose of compliance with the SGMA requirement that the entire basin be covered by this Basin 8-1 Alternative, Submitting Agencies have divided Basin 8-1 into four management areas: La Habra-Brea, OCWD, South East, and Santa Ana Canyon Management Areas, shown in Figure 1-1.

Historically, the majority of Basin 8-1 (90% of the land area) has been managed by OCWD, which includes the land area within the OCWD Management Area and a small portion of the land area within the Santa Ana Canyon Management Area. The percentage of the land area within Basin 8-1 in each of the management areas is shown in Figure 1-2.

Although the land areas outside of OCWD's jurisdiction in the Santa Ana Canyon and South East Management Areas have not been formally "managed" by OCWD, the hydrogeological conditions in these areas are essentially an extension of the managed basin. OCWD has incorporated data, when available, from these areas into the OCWD data base. For example, precipitation runoff from the mountains along the eastern border (in the South East Management Area) is estimated and incorporated into OCWD's basin water budget. The Santa Ana Canyon Management Area, created in this report in order to include land within and outside of OCWD's service area, is upstream of OCWD recharge operations. While OCWD does not have jurisdiction over all the land in this area, OCWD does have the rights to all the water in the Santa Ana River released from Prado Dam. In this respect, OCWD is actively engaged in managing the flow of surface water within the Santa Ana Canyon irrespective of land ownership.

While the four management areas are described separately in this report, it is important to understand that actual "management" is not as distinct, and existing collaborative efforts between agencies in managing groundwater resources will continue. In the case of the La Habra-Brea Management Area, the City of La Habra has already been deemed the exclusive GSA for the La Habra/Brea area and intends to prepare a Groundwater Sustainability Plan (GSP). When La Habra submits a GSP, this Basin 8-1 Alternative will no longer include the La Habra/Brea area within the area designated by the GSP.

As authorized by 23 CCR § 354.20, this Basin 8-1 Alternative describes four management areas as shown in Figure 1. The rationale for designating these management areas within Basin 8-1 is explained as follows:

- La Habra-Brea Management Area includes the northern portion of Basin 8-1 that is located outside of the OCWD service area and is within the cities of La Habra and Brea. The City of La Habra currently manages this portion of Basin 8-1. Although this management area is hydrologically distinct from the OCWD Management Area there is an estimated 1,000 afy of subsurface groundwater flow from the La Habra-Brea Management Area to the OCWD Management Area. Surface water that recharges the OCWD portion of Basin 8-1 does not replenish the La Habra-Brea Management Area.

- The OCWD Management Area includes approximately 89 percent of the land area of Basin 8-1. Ninety-eight percent of all groundwater production within 8-1 occurs in this management area. This area includes the portion of Basin 8-1 that is within OCWD's service area, except for an approximately 7-square mile portion of OCWD's service area

that is in the Santa Ana Canyon Management Area. OCWD has been managing the majority of Basin 8-1 since its formation in 1933.

- The South East Management Area includes the southern and southeastern portion of Basin 8-1 that is hydrogeologically connected to the OCWD Management Area but is outside of OCWD's service area. This area consists of several, disconnected, small fringe areas that are within the DWR designated boundary of Basin 8-1. This management area includes areas under the jurisdiction of the IRWD, the El Toro Water District and the City of Orange. The groundwater basin in this area is thin and contains more clay and silt deposits than aquifers in the OCWD Management Area. Groundwater historically has flowed out of this area into the OCWD Management Area. Production has been minimal in this area due to hydrogeological conditions with little potential for significant future increases.

- The Santa Ana Canyon Management Area includes the easternmost section of Basin 8-1. This area includes land under the jurisdiction of several cities, two counties, and two water districts, including a portion that is within the OCWD service area. Groundwater production is relatively minor compared to groundwater production in the OCWD Management Area. The western boundary of this management area is located at Imperial Highway in the city of Anaheim where the basin thickness begins to increase. Imperial Highway crosses the Santa Ana River where OCWD begins to divert river water into the recharge facilities for percolation into the groundwater basin.

The Basin 8-1 Alternative is organized as follows:

- Overview: Provides a map and description of Basin 8-1 and a brief description of the basin management areas.

- Hydrogeology of Basin 8-1: Provides a description of the hydrogeology of Basin 8-1 including a description of the basin, the aquifer systems, fault zones, total basin volume, basin cross-sections, basin characteristics, and general groundwater quality.

- La Habra-Brea Management Area: Provides a description of sustainable management of the La Habra-Brea Management Area

- OCWD Management Area: Provides a description of sustainable management of the OCWD Management Area

- South East Management Area: Provides a description of sustainable management of the South East Management Area

- Santa Ana Canyon Management Area: Provides a description of sustainable management of the Santa Ana Canyon Management Area

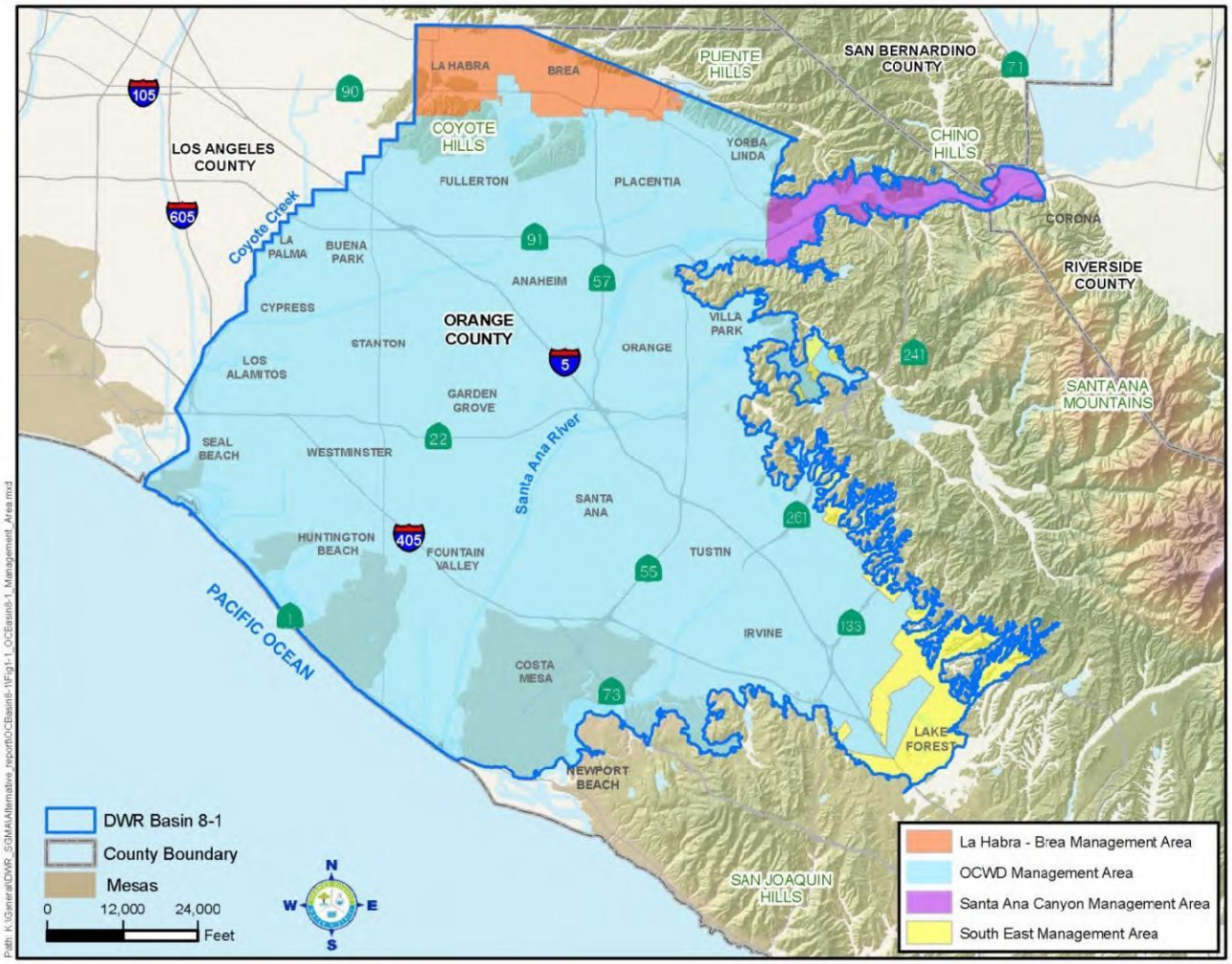


Figure 1-1: Basin 8-1 Management Area Boundaries

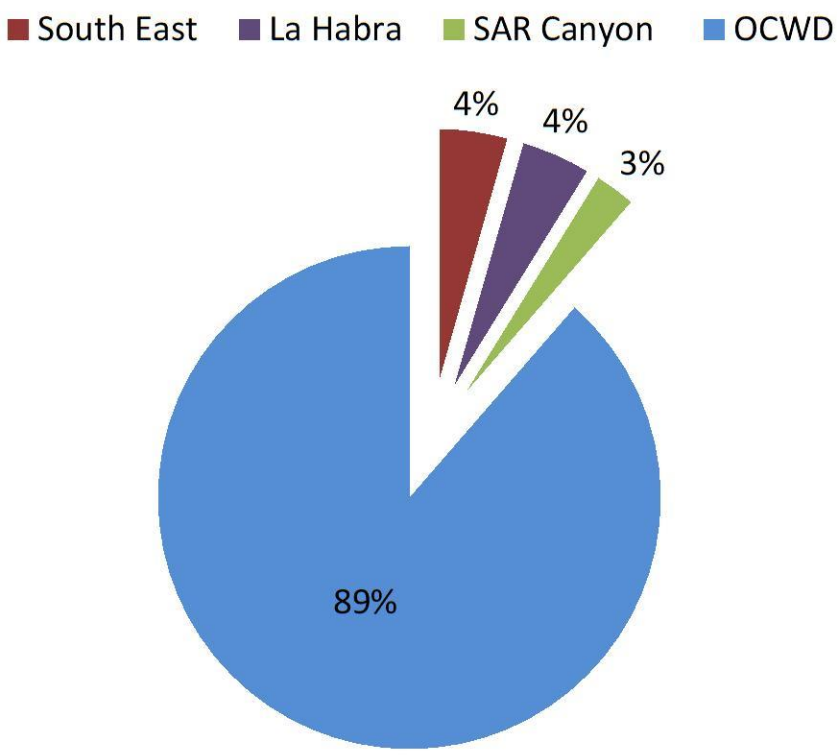


Figure 1-2: Percentage of Land Area in Basin 8-1 within Management Areas

1. LA HABRA-BREA MANAGEMENT AREA

The La Habra-Brea Management area covers the northern portion of Basin 8-1. The City of La Habra has been deemed the exclusive GSA under SGMA for this management area. This management area is part of Basin 8-1, but is hydrogeologically distinct from the OCWD Management Area and is not under the jurisdiction of OCWD. The City adopted a resolution to establish the La Habra Basin as a separate basin from Basin 8-1. OCWD adopted a resolution to support the City's request to DWR for an internal jurisdictional boundary modification in the OC Basin that follows the city limits of La Habra and Brea as is outside of the Orange County Water District's jurisdictional boundary.

The La Habra-Brea Management Area is included with this Alternative to facilitate collaboration among groundwater agencies within Basin 8-1 as required by SGMA. The City of La Habra and portions of the City of Brea comprise the La Habra-Brea Management Area. This area overlies the extents of the proposed La Habra Groundwater Basin, referenced herein.

The La Habra-Brea Management Area is currently monitored for groundwater elevations and for groundwater quality through productions wells and historical data from monitoring wells within the La Habra-Brea Management Area and surrounding area.

As the City of La Habra currently depends on local groundwater to meet approximately 40 percent of its water consumption; preserving the sustainability of the La Habra-Brea Management Area is essential. Currently (and historically), the City of La Habra manages (and has managed) the La Habra-Brea Management Area through management plans and programs for groundwater levels, basin storage, and water quality. By January 2020, the City will manage the La Habra-Brea Management Area through a Groundwater Sustainability Plan under SGMA, which will describe the monitoring program and ensure that no undesirable results occur in the future.

2. OCWD MANAGEMENT AREA

The OCWD Management Area covers an area of approximately 260 square miles within Basin 8-1, which represents approximately 89 percent of the land area of Basin 8-1. Ninety-eight percent of the groundwater production within Basin 8-1 occurs in the OCWD Management Area. Groundwater produced within the OCWD Management Area provides approximately 70 percent of the total water supply for a population of around 2.4 million residents.

Since its formation by the California Legislature in 1933, OCWD has been the managing agency for the majority of Basin 8-1, also referred to as the Coastal Plain of Orange County Groundwater Basin. As a special act district listed in Water Code § 1072(c)(1), OCWD is the exclusive local agency within its jurisdictional boundaries with powers to comply with SGMA.

Water demands within the OCWD Management Area have grown from approximately 150,000 acre-feet per year (afy) in the mid-1950s to a high of approximately 366,000 afy in water year 2007-08. OCWD operates an extensive network of recharge basins to increase recharge of surface water into the groundwater basin to support groundwater production. OCWD monitors the basin by collecting groundwater elevation and quality data from nearly 700 wells, including over 400 OCWD-owned monitoring wells, manages an electronic database that stores water elevation, water quality, production, recharge and other data on over 2,000 wells and facilities within and outside OCWD boundaries.

An OCWD-operated water recycling plant provides up to 100 million gallons per day of advanced tertiary-treated wastewater that supplies recharge operations and a seawater intrusion barrier operated to protect the basin's water quality. OCWD manages groundwater storage and water levels within an established operating range which has resulted in sustainable conditions with no unreasonable and significant undesirable results.

The Sustainability Goal for the OCWD Management Area is to continue to sustainably manage the groundwater basin to prevent conditions that would lead to significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) seawater intrusion, (5) inelastic land subsidence and (6) adverse impacts on hydrologically connected surface water.

3. SOUTH EAST MANAGEMENT AREA

The South East Management Area contains portions of Irvine Ranch Water District (IRWD), El Toro Water District (ETWD), and the City of Orange. The area covered this management area is essentially an extension of the main basin and was formed to comply with the requirement that the entirety of Basin 8-1 be covered by a responsible agency.

There is relatively little existing, or potential, groundwater development within the South East Management Area. What pumping does occur is less than 200 acre-feet-per-year (afy), which is much less than the total recharge to the area. Water levels and storage levels are steady.

The Sustainability Goal for the South East Management Area is to recognize it is a small part of the larger groundwater basin that is managed by OCWD. Nevertheless, groundwater levels and water quality will be monitored to assure that conditions do not lead to significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) inelastic land subsidence, (5) unreasonable adverse effect on surface water resources, and (6) adverse impacts on hydrologically connected surface water.

4. SANTA ANA CANYON MANAGEMENT AREA

The Santa Ana Canyon Management Area covers the easternmost extent of Basin 8-1. The water resources in the Santa Ana Canyon Management Area include the Santa Ana River and groundwater. Groundwater is primarily located in a thin alluvial aquifer that is 90 to 100 feet thick and is a combination of infiltrated surface water and groundwater inflow from the adjacent foothills.

Groundwater pumping in this management area is primarily used for irrigation with a minimal amount used for potable purposes. The amount of groundwater pumping is small relative to the large volumes of flow in the canyon provided by the Santa Ana River and monitoring indicates there are no depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water. There are no groundwater withdrawals within the areas covered by the Cities of Anaheim, Chino Hills, and Yorba Linda; Riverside County; and Yorba Linda Water District.

OCWD has water rights to all Santa Ana River flows released through Prado Dam. For the area within its boundary, OCWD has the legal authority through the OCWD Act to require reporting of groundwater production and to charge groundwater pumping assessments for groundwater production. OCWD also monitors surface water flow and quality as well as groundwater levels and quality throughout the Santa Ana Canyon Management Area.

The Sustainability Goal for the Santa Ana Canyon Management Area is to continue monitoring sustainable conditions and monitor to ensure that no significant and unreasonable results occur in the future.