

Water Supply Assessment

Rancho La Habra

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Executive Summary

This Water Supply Assessment (WSA) has been prepared for the Rancho La Habra development in accordance with Senate Bill 610. The proposed project consists of the removal of the existing Westridge Golf Course to provide a site for a new development that will consist of a mixture of single family homes, multi-family homes, and a network of parks and trails for the community and the City. The purpose of this WSA is to provide information to verify that there is sufficient water supply to the City to provide for the proposed project now and into the future.

Water Demand

The existing golf course consists of approximately 150 acres, of which nearly half of the area is irrigated turf. Historical water usage has shown that the average water demand of the golf course is 276 acre-feet per year (AFY). The development will follow the guidelines mandated by the 2013 California Code of Regulation, Title 24, Part II CALGreen Guidelines and also apply the EPA's WaterSense program guidelines. The estimated indoor water demand for single and multi-family developments is 39 gallons per capita per day (gpcd), but an additional 15% has been included in the water demand calculation to be conservative bringing total estimated water demand to 45 gpcd. Total development indoor water use is estimated at 80 AFY. Outdoor water use for landscaping is estimated at 100 AFY. Landscaping will abide by the most recent Model Water Efficient Landscape Ordinance through careful selection and design of landscaping and irrigation throughout the development.

Total project water demand is calculated at 180 AFY. This equates to a water savings of 96 AFY, or a 35% reduction in demand for the site. Additionally, further demand reductions are anticipated through programs currently under development to reduce landscape irrigation demand further below the regulated maximum amounts and to develop non-potable water supplies to offset potable water demand through sources such as stormwater and urban runoff harvesting. This water harvesting strategy can produce an estimated 100-200 AFY of non-potable water.

Table 1 – Yearly Water Savings of Westridge Development

Scenario	Water Usage (AFY)
Existing Golf Course	276
Proposed Development	180
Yearly Water Savings	96

Water Supply

The City of La Habra's 2015 Urban Water Management Plan (UWMP) identifies three sources of water for the City: (1) local groundwater from the La Habra basin, (2) imported groundwater from the Main San Gabriel Basin via Cal Domestic Water Company (CDWC), and (3) imported water from the Metropolitan Water District of Southern California (Metropolitan) through MWDOC. The City has determined that there will be sufficient supply of water to service its customers through 2040. This analysis took into account a demand increase of 6% and evaluated three scenarios: normal year, single dry years, and multiple dry years.

Conclusion

The City has determined that there are sufficient water supplies for the next 20 years to meet the water demand city-wide. The water demand used for making this determination assumes the demand of the existing Westridge Golf Club. Since the proposed development will save approximately 96 AFY compared to the existing golf course, it can be concluded that the 20-year supply that was sufficient for the City's demand in the 2015 UWMP remains sufficient for the City when the proposed development is constructed.

1 Purpose of Report

In order to address some of the uncertainty regarding water supply and provide for a more detailed understanding of water availability for individual projects, the California State Legislature adopted Senate Bill 610 in 2001 to require that water supply availability be documented early in the land use planning process. SB 610 is a measure that promotes more collaborative planning between local water suppliers and cities and counties. The statute requires that detailed information be presented regarding water availability.

1.1 Senate Bill 610

Under SB 610, a water supply assessment must be included in environmental documentation subject to the California Environmental Quality Act (CEQA). Senate Bill 610 applies to a project if it is expected to include any of the following elements:

- (1) A proposed residential development of more than 500 dwelling units.
- (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- (4) A proposed hotel or motel, or both, having more than 500 rooms.
- (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- (6) A mixed-use project that includes one or more of the projects specified in this subdivision.
- (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Rancho La Habra contains either 422 dwelling units and 20,000 square feet of commercial or 471 dwelling units, neither of which requires a water supply assessment; however, due to the current climate of water use and planning the following water supply assessment has been prepared.

Water Code Section 10910, et seq, as amended by SB 610 in 2001, defines a “project” as any residential development of 500 or more dwelling units (or equivalently-large commercial development), and requires the water purveyor (the City) to prepare a “Water Supply Assessment” prior to project approval. The Water Supply Assessment must be included in the environmental document addressing the potential environmental impacts of the project. In order for the project to be approved, the Water Supply Assessment must conclude that the supply of domestic water available to the development is adequate, and will continue to be adequate over the next 20 years during normal, dry, and multiple-dry years.

2 Project Description and Water Demand

2.1 Rancho La Habra Background

Rancho La Habra is a proposed development of approximately 150 acres located within the City of La Habra, California. The development is planned to replace the existing Westridge Golf Club, which opened in 1999. The project is bounded by Beach Boulevard on the west, Idaho Street on the east, residential on the south, and commercial and residential on the north (see Figure 1 for location map). Rancho La Habra will consist of 422 single and multi-family dwelling units, and either 20,000 square feet of retail/restaurant commercial or 49 additional multi-family dwelling units with a series of parks, habitat, and community center for residents and the public. Since the additional 49 dwelling units would result in a higher water demand for indoor and outdoor uses than 20,000 square feet of retail/restaurant uses, this report assumes the project consists of the 422 dwelling units plus 49 additional dwelling units option, for a total of 471 single family and multi-family dwelling units. A comparison of the water usage of each option can be found in the Appendix.

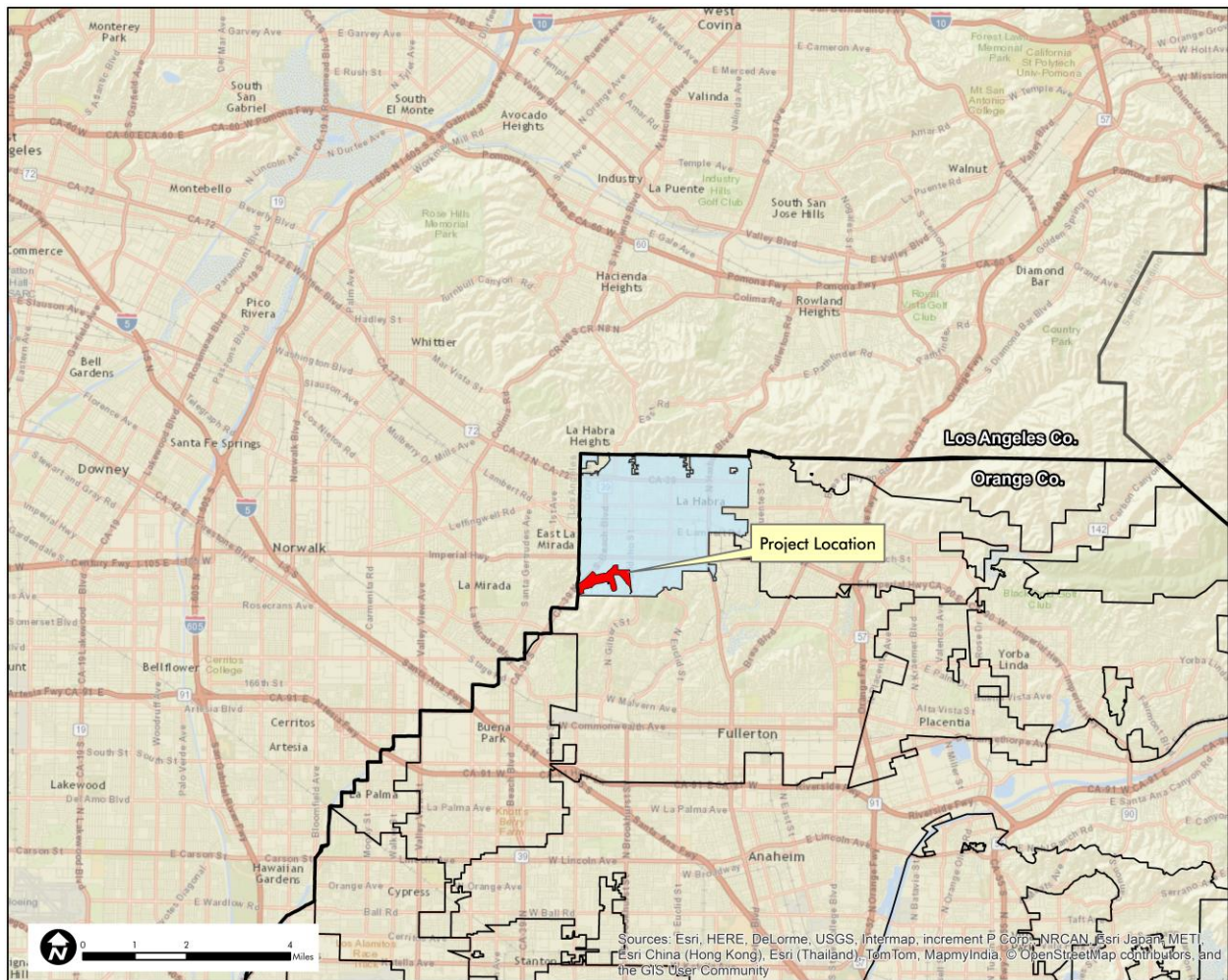


Figure 1 – Rancho La Habra Location Map

2.1.1 Existing Westridge Golf Club Water Usage

Golf courses typically require a large supply of water to maintain the substantial turf coverage typical of a course. The Westridge Golf Club property consists of approximately 150 acres, approximately 50% of

which is turf area. Another 20 acres of the property consists of slopes that, while a part of the property, have historically been irrigated by the homeowner's association located adjacent to the property to the south. The existing site can be seen in Figure 2, which has the amount of turf highlighted graphically in green.

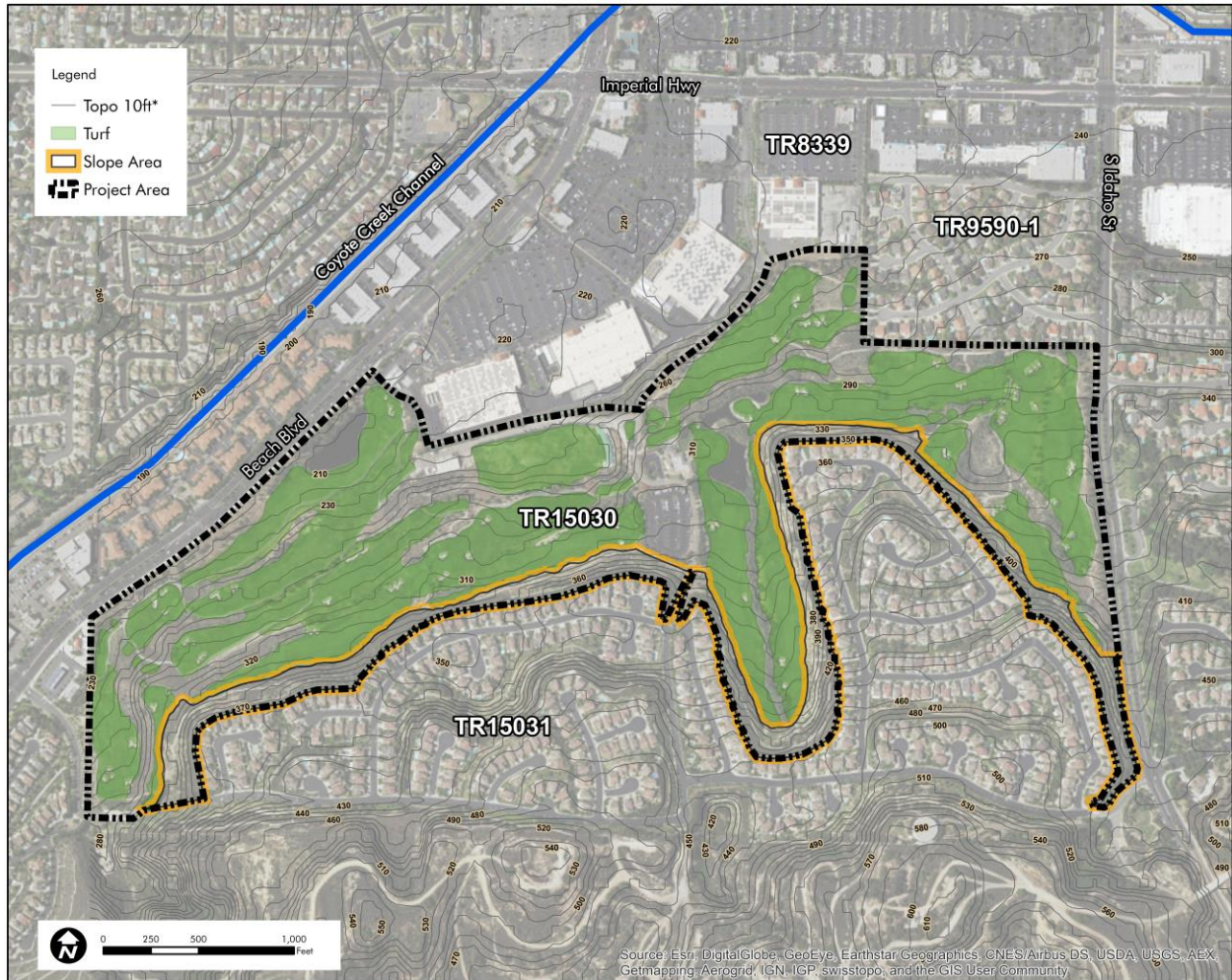


Figure 2 – Existing Westridge Golf Course Site

Water usage from November 2010 through March 2015: During this period the golf club had four water meters: golf course irrigation meter, clubhouse meter, maintenance building meter, and a fire flow meter. All four meters use potable water from the City’s potable water supply. The water used for irrigation was found to be 94%-97% of the golf club’s total water usage in winter months and typically over 99% of the total water usage during the summer months, when water usage was greatest. The water usage of the four meters was combined to determine the total usage by the golf club. Yearly usage for 2011-2014 can be seen in the table below. A more detailed breakdown of monthly water usage of the golf club can be found in the Appendix. Using the four years of data provided, the average yearly water usage of the golf club was 276 AFY from 2011-2014.

Table 2 – Existing Westridge Golf Course Water Usage

	Min. Monthly Demand (AF)	Max. Monthly Demand (AF)	Total Yearly Demand (AF)
2011	3.3	41.3	257
2012	1.0	51.2	262
2013	6.2	63.1	283
2014	3.0	58.8	302
Average	-	-	276

2.2 Proposed Development

The proposed Rancho La Habra development will be situated on the site of the existing Westridge Golf Club. As previously stated, the development will consist of a mixture of 471 single family and multi family dwelling units as well as a network of parks, trails, wildlife areas, and open space. The following Figure 3 shows the proposed site plan of the Rancho La Habra development.



Figure 3 – Proposed Rancho La Habra Site Plan

This section will discuss the water demand of the proposed development based on three estimates:

1. Per capita usage based on the City of La Habra’s minimum reduction 2020 target of 142 gallons per capita per day (gpcd) outlined in the City’s 2015 Urban Water Management Plan (UWMP)
2. Per capita usage based on the City’s actual 2015 compliance usage of 138 gpcd outlined in the City’s 2015 UWMP.

3. Estimated water usage based on indoor water usage for residents and outdoor water usage calculated using development plan and the updated landscape ordinance for the State of California

2.2.1 Water Usage – City of La Habra’s 2015 UWMP Per Capita Usage

The City of La Habra prepared the 2015 UWMP to provide a working document when determining the available supply of water for the City. Section 2.4 of the 2015 UWMP discusses the City’s method of compliance with SBx7-7, a 20% water reduction goal to be achieved by 2020 for the State of California. The statewide reduction goal provided four options to water agencies, of which the City chose to pursue Compliance Option 3, to achieve 95% of the applicable state hydrologic region target as set forth in the State’s 20x2020 Water Conservation Plan. The City has chosen to pursue the water reduction goal as a member of the Orange County 20x2020 Regional Alliance formed by the Municipal Water District (MWDOC), as allowed by SBx7-7 requirements.

The first step in determining the City’s water reduction as a member of the Regional Alliance was to establish a continuous 10-year baseline average water use. The baseline water use is the agency’s gross water use divided by its service area population, reported in gallons per capita per day (gpcd). The 10-year average must have an end date between December 31, 2004 and December 31, 2010. The City chose a continuous 10-year average water use from July 1, 1996 through June 30, 2005, which provided a baseline usage of 161 gpcd (*La Habra Final 2015 UWMP – Table 2-9: Baseline and Target Summary*). Under Compliance Option 3, as a member of the Orange County 20x2020 Regional Alliance, the City’s 2020 final water use target is 142 gpcd.

The 2020 final water target for the City can be used in conjunction with the projected population of the new development. According to the *City of La Habra General Plan Update Technical Background Report*, dated May 2012, as a part of the *La Habra General Plan Appendix C*, the total persons per household was approximately 3.16 at the time of the 2010 Census, while the 2015 Department of Finance (DOF) listed a population per dwelling unit of 3.23. For the purpose of this report, 3.25 people per household will be used for water demand calculations. The table below shows the water demand of the new development based on the 2020 target water use number, number of people per household based on the City’s General Plan, and the number of single family and multi-family units planned for the Westridge development.

Table 3 – Proposed Water Usage Based on City of La Habra’s 2015 UWMP Water Reduction Target

	Unit Count	People per Unit	Population	Demand Unit ¹ (gpcd)	Water Usage (AFY)
Single Family	277	3.25	900	142	143
Multi Family	194	3.25	631	142	100
Total	471	3.25	1,531	142	243

1. Demand unit based on City’s final target from OC 20x2020.

2.2.2 Water Usage – City of La Habra’s 2015 Per Capita Usage

By 2015 the City of La Habra had surpassed the required 2020 reduction by reducing the per capital water usage of 142 gpcd by reaching a citywide per capita usage of 138 gpcd. The following table shows the water consumption of Rancho La Habra based on the City 2015 actual per capita usage.

Table 4 – Proposed Water Usage Based on City of La Habra’s Actual 2015 Compliance Usage

	Unit Count	People per Unit	Population	Demand Unit ¹ (gpcd)	Water Usage (AFY)
Single Family	277	3.25	900	138	139
Multi Family	194	3.25	631	138	97
Total	471	3.25	1,531	138	237

1. Demand unit based on City’s actual per capita usage in 2015.

2.2.3 Water Usage – Indoor and Outdoor Estimates

While water usage based on gallons per capita per day provides a general water usage, it does not take into account specific site characteristics for each development. In the case of the Rancho La Habra development, there is a community center, commercial center, and an extensive parks and trails system that require increased irrigation demand to maintain landscaping. In order to minimize the impact, the development has on water demand, CalAtlantic Homes has decided to pursue a water conscious development that will utilize water efficient fixtures within the homes and select a plant palette with irrigation methodology that will maximize the limited water available for outdoor use.

The homes will be constructed with water efficient fixtures that will meet California Green Building Standards and the EPA’s WaterSense program. When estimating indoor water use, the daily usage per person is calculated by the fixture’s flow rate and the duration / number of uses expected per person. The following table shows an estimation of the daily indoor usage per capita.

Table 5 – Indoor Potable Water Usage per Person

Potable Water Use	Flow per Use	Daily Usage ¹	Gallons/Capita/Day
Toilets	1.28 gal / flush	5 flush / day	6.4
Showers	2.0 gal / min	8 min / day	16
Kitchen Faucets	1.5 gal / min	4 min / day	6
Bathroom Faucets	1.5 gal / min	2 min / day	3
Clothes Washer	13 gal / load	0.5 loads / day	6.5
Dishwasher	4.25 gal / load	0.3 loads / day	1.3
Indoor Potable Water Usage			39

1. Daily usage based on CALGreen Guidelines and USEPA Water Conservation Guidelines.

While the above table shows that the estimated indoor usage per capita is 39 gallons per day, 45 gallons per person per day will be used for the purpose of calculating the total water demand of the Rancho La Habra development. This provides a more conservative number to account for possible leaks of fixtures within the homes or the possibility that residents use more water than calculated.

The proposed development has an extensive network of parks, trails, and open space for the community and the City to enjoy. This network of outdoor amenities requires irrigation in order to maintain the landscape. An irrigation demand calculation was performed by the developer’s landscape architect, Bright View, which can be found in detail in the Appendix. The irrigation demand took into account the site specific evapotranspiration rate, intended plant palette, irrigation method, and percentage of irrigated area for each land designation. It should be noted that the existing slope on the south of the property is irrigated by the homeowner’s association to the south, so water demand for the slope was not included for Rancho La Habra. Table 6 shows the estimated water usage for both indoor and outdoor use of the proposed Rancho La Habra development.

Table 6 – Estimated Water Usage Based on Land Use Plan for Rancho La Habra

Indoor Water Usage						
Land Use	Unit Count	People per Unit	Population	Water Usage (gpcd)	Daily Usage (gpd)	Yearly Usage (AFY)
Single Family	277	3.25	900	45	40,511	45
Multi Family	194	3.25	631	45	28,373	32
Community Center	-	-	150	15	2,250	3
Total Indoor Water Use	-	-	-	-	-	80
Outdoor Water Usage						
Land Use	Unit Count	Area (sf/unit)	Area (acres)	% Irrigated	Plant Factor / Irrigation Efficiency	Yearly Usage (AFY)
Single Family Yard	277	900	5.7	100	0.49	11.8
Multi Family Yard	194	250	1.1	100	0.49	2.3
Private Open Space (Show)	-	-	6.6	100	0.53	14.6
Private Open Space (Trans)	-	-	19.7	100	0.27	22.0
Community Center and Park	-	-	7.6	75	0.49	11.7
Public Park and Picnic Area (shrubs)	-	-	4.5	100	0.53	10.0
Public Park and Picnic Area (turf)	-	-	4.5	100	0.93	17.5
Public Linear Park	-	-	11.6	75	0.27	9.7
Private Park	-	-	0.2	100	0.53	0.5
Total Outdoor Water Use	-	-	-	-	-	100
Total Water Usage						
Indoor Water Use (AFY)						80
Outdoor Water Use (AFY)						100
Total Water Use (AFY)						180
Water Usage per Capita (gpcd)						105

2.3 Water Demand Summary

The existing Westridge Golf Club uses a sizable amount of water every year to maintain the greens. Using the three methods of estimating the water demand of the proposed development previously discussed (2015 UWMP reduction target for 2020, City of La Habra's actual per capita usage for 2015, estimated water use) shows that the new development will use less water than the existing golf course. Since water demands based on per capita usage do not take into account site specific design, the estimated water use from Table 6 will be used as the projected water demand of the Rancho La Habra development.

Table 7 shows the existing water use and the projected water use of the development using the estimated water usage method previously discussed.

Table 7 – Existing Water Demand vs. Projected Water Demand

Scenario	Water Usage (AFY)
Existing Golf Course	276
Proposed Development	180
Annual Water Savings	96

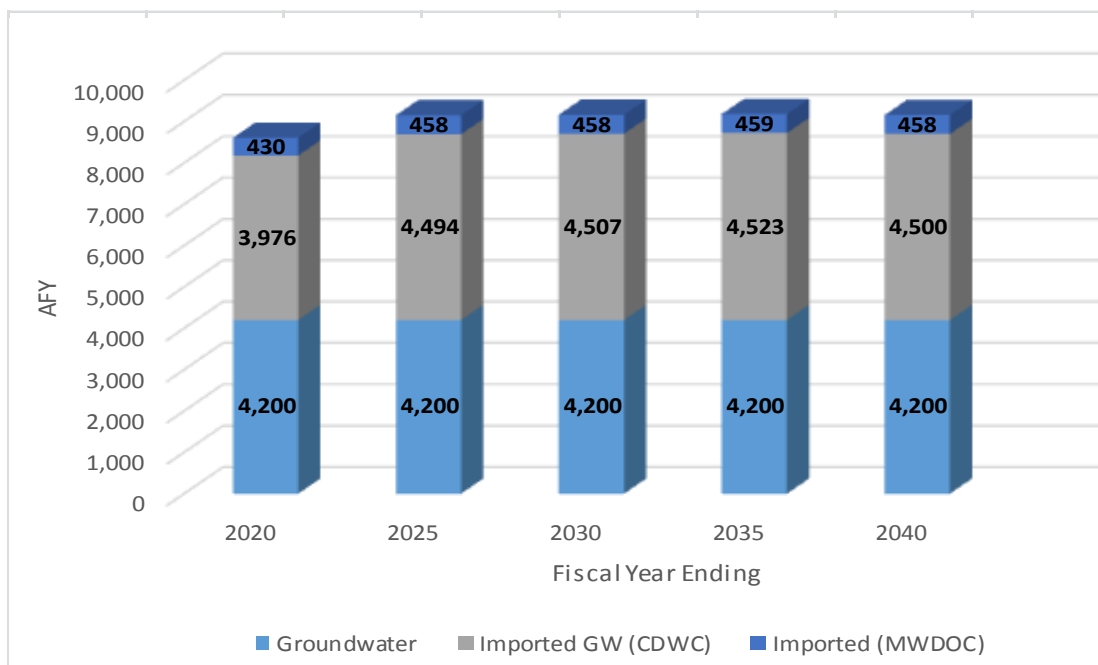
3 City of La Habra Water Demand and Supplies

3.1 Overview of Supply and Demand

The City currently obtains water from the following water sources: (1) imported groundwater from the Main San Gabriel Basin through the California Domestic Water Company (CDWC), (2) local groundwater from the La Habra Basin, and (3) imported water from Metropolitan through the Municipal Water District of Orange County (MWDOC).

The imported groundwater supply from CDWC provides approximately 60% of the City’s water supply. CDWC is a mutual water company and wholesale provider that supplies groundwater from the Main San Gabriel Basin to each of its member agencies who own and/or lease stock in the company. Local groundwater comprises 38% of the City’s water supply. Local groundwater is pumped from the La Habra Basin by the City owned Idaho Street Well. The remainder of the City’s water supply (2%) is imported from Metropolitan via MWDOC. The imported water from Metropolitan is a blend of Colorado River water from Lake Mathews, and State Water Project water through the Yorba Linda Feeder, which is then treated at the Robert B. Diemer Filtration Plant located north of Yorba Linda.

The City is committed to reducing dependency on imported water from Metropolitan by implementing upgrades to the local groundwater extraction system and the CDWC supply system. Through the upgrades, the City has increased imported CDWC supply from 57% to 60% and local groundwater production from 23% to 38%. This has decreased the City’s dependence on Metropolitan water by 18% of the City’s water supply. The following figure shows the City’s projected water source through 2040.



Source: City of La Habra 2015 Urban Water Management Plan, Figure 3-1: Water Supply Sources in the City (AF)

Figure 4 – Current and Projected Water Supplies

3.1.1 Population and Water Demand Growth

The City has a varied range of housing types, shopping, professional and commercial services, and light industrial areas. All told, over 99.9% of the City’s land area is either developed or under development. For this reason, population growth for the City’s service area is projected to be 0.42% per year, or increase 10.2% by 2040, as shown in the table below.

Table 8 – Current and Projected Population of the City of La Habra

	2015	2020	2025	2030	2035	2040
Population Served	61,843	64,552	65,859	67,144	68,012	68,159

Source: City of La Habra 2015 Urban Water Management Plan, Table 2-1Retail: Population – Current and Projected

The City has a labor force larger than the job market, causing most residents to be employed elsewhere in the region. 75% of the City’s water demand is residential, split between single family and multi-family units. The other 25% is split between commercial, institutional, and landscape use. The following table a summary of past, current, and projected water use by land use through 2040.

Table 9 – Historical and Projected Water Demand by Land Use

Fiscal Year	Water Demand by Water Use Sectors (AFY)					
	Single Family	Multi-Family	Commercial	Institutional/ Governmental	Landscape	Total Demand
2020	5,175	1,413	1,087	232	699	8,606
2025	5,503	1,503	1,156	246	743	9,152
2030	5,511	1,505	1,158	247	744	9,165
2035	5,521	1,508	1,160	247	745	9,182
2040	5,507	1,504	1,157	247	743	9,158

Source: City of La Habra 2015 Urban Water Management Plan, Table 2-4: Demand for Potable and Raw Water- Projected (AF)

3.1.2 Rancho La Habra Impact on Projected Demand

Since the development at Rancho La Habra will be constructed over the existing Westridge Golf Club, the projected water demands listed in the previous table can be adjusted by removing the existing demand by the golf course from the projected demand, and then including the estimated demand of the new development. In Section 1.1.1 of this report, the average historical water usage of the Westridge Golf Club from 2011-2014 was 276 AFY, which is 96 AFY more than the estimated 180 AFY that will be used by the development. The projected demands for the City of La Habra, including the Rancho La Habra development and elimination of the Westridge Golf Course, is shown in the following table.

Table 10 – Current Projected Water Demand and Projected Water Demand with Rancho La Habra Development

Fiscal Year	UWMP Total Demand (AFY)	Reduced Demand (AFY) – Elimination of Golf Course	Increased Demand (AFY) – Addition of Rancho La Habra	New Demand (AFY)	Projected Supply (AFY)
2020	8,606	276	180	8,510	8,606
2025	9,152	276	180	9,056	9,152
2030	9,165	276	180	9,069	9,165
2035	9,182	276	180	9,086	9,182
2040	9,158	276	180	9,062	9,158

3.2 Imported Water Supply

3.2.1 Imported Groundwater

Over 50% of the City's water demand is provided through imported groundwater from CDWC, a mutual water company. Groundwater from CDWC comes from the Main San Gabriel Basin and is then distributed to each of its member agencies who own and/or lease stock in the company. The City currently owns shares in the company to provide 5,750 AFY and leases additional water rights on an annual basis. From an infrastructure standpoint, the City is limited to 7,200 AFY from CDWC due to constraints on CDWC's water system.

CDWC's supply of water, the Main San Gabriel Basin, is located in eastern Los Angeles County, underlying the San Gabriel Valley. The basin has a footprint of approximately 167 square miles with a storage capacity of 8.6 million acre-feet. The groundwater basin has a portion hydraulically linked to the main basin in the southeast called the Puente Subbasin. This subbasin is not the legal jurisdiction of the Main San Gabriel Basin Watermaster, which makes it a separate entity for management purposes.

The Main San Gabriel Basin Watermaster was created as a result of the Main San Gabriel Basin Judgment in 1973, which established a program for management of the groundwater basin. The Watermaster manages and controls the withdrawal and replenishment of water supplies in the basin and determines annually the operating safe yield for the succeeding fiscal year. The judgement adjudicated all rights to the diversion of surface water and production of groundwater within the Main Basin and its relevant watershed. Instead of restricting the quantity of water that parties may extract from the basin, the judgment provides a means for replacing with supplemental water all annual extractions in excess of a party's annual right to extract water. A party's annual extraction quantity is determined as a portion of the operating safe yield established by the Watermaster and can be produced without a replacement water assessment. If a party extracts more water than allotted it must pay an assessment for replacement water, which is sufficient to purchase an amount of supplemental water to be recharged in the basin that is equal to the excess production quantity. Water rights established through the Main San Gabriel Basin Judgment are transferable by lease or purchase. The judgment also has a provision allowing parties and non-parties to store imported supplemental water in the basin.

3.2.2 Imported Supply from MWDOC

The City currently imports approximately 2% of its total water supply from Metropolitan Water District of Southern California (Metropolitan), which was reduced from 1,942 AF or 20% in 2010. The City anticipates an increase in MWDOC dependence to 5% of its water supply in the coming years. This water is transported from Metropolitan to the City by way of MWDOC. Metropolitan's water is provided by two principal sources: (1) the Colorado River through the Colorado Aqueduct and (2) Lake Oroville watershed through the State Water Project. A blend of both sources of water is received by the Diemer Filtration Plant.

The City receives water from MWDOC through two facilities. The first facility is a transmission line from Metropolitan's Orange County Feeder that has a capacity of 5,500 gpm, which is shared with the City of Brea and the Collier Chemical Company who have capacity rights. The second facility receives water from Metropolitan's Lower Feeder, which has a capacity of 5,400 gpm. The two connections are designated Orange County-4 (OC-4) and Orange County-45 (OC-45) respectively.

3.2.2.1 Metropolitan Water Supplies

Metropolitan's Colorado River supply include supplies from existing programs and the implementation of the Quantification Settlement Agreement (QSA) that allows the transfer of water from agricultural agencies to urban uses. Metropolitan has a basic entitlement of 550,000 AFY of Colorado River water, plus surplus water up to an additional 662,000 AFY under certain conditions. Unfortunately, Metropolitan has not received surplus water for a number of years.

Metropolitan receives “Table A” water from the State Water Project (SWP), which is the maximum entitlement of SWP water for each water contracting agency. However, deliveries commonly are less than 50 percent of the Table A due to water availability at the source, water rights, climate change, and regulatory restrictions.

Metropolitan relies on storage as a major component for its dry year resource management strategy.

3.3 Imported Water Supply

Both CDWC and MWDOC provided their water availability projections for use within the City’s planning process per the California Water Code. The following table shows the water supply projections in order to meet demands, but do not represent the full capacity of the system.

Table 11 – Imported Water Supply Projections (AF)

Wholesaler Sources	Fiscal Year Ending				
	2020	2025	2030	2035	2040-opt
MWDOC	430	458	458	459	458
CDWC	3,976	4,494	4,507	4,523	4,500
La Habra Groundwater Basin	4,200	4,200	4,200	4,200	4,200

Source: City of La Habra 2015 Urban Water Management Plan, Table 3-4: Water Supplies, Projected (AF)

3.4 Local Groundwater Supply

The local groundwater supply for the City is from the La Habra Basin, which is non-adjudicated and not considered in overdraft. In the two years leading up to the release of the City’s 2015 UWMP, the average extraction rate was approximately 3,860 AFY, higher than typical extraction rates due to the drought conditions. The estimated long-term extraction supply is 4,500AFY, which is considerably higher than the historical extraction rate and the extraction rate during the most recent drought. The groundwater is extracted by the Idaho Street Well, which was constructed in 1997. The groundwater productions for 2011-2015 are shown in the following table.

Table 12 – Local Groundwater Production from 2011 – 2015 (AFY)

Basin Name(s)	Fiscal Year Ending				
	2011	2012	2013	2014	2015
La Habra Basin	1,849	1,865	3,073	4,094	3,630

Source: City of La Habra 2015 Urban Water Management Plan, Table 3-2: Groundwater Volume Pumped (AF)

Through further development of the groundwater extraction infrastructure, the City could increase the available groundwater supply up to 40% of their current water demands. The City has already increased capacity of the Idaho Street Well, as well as added an additional well at La Bonita Park. The projected groundwater production of the La Habra Basin is 4,200 (AF)

4 Reliability of Water Supplies

4.1 Factors Impacting Reliability

In the City's 2015 UWMP, the City assessed the reliability of the water supply for its customers under normal, dry, and multiple dry water years. The reliability may be impacted by a variety of factors including:

- **Environmental** – endangered species in the Bay-Delta area lead to restrictions on SWP supply deliveries
- **Legal** – new regulatory requirements could require additional export reductions, releases of additional water from storage, or other operational changes impacting water supply operations
- **Water Quality** – presence of constituents within the source waters can require testing and treatment to assure safe potable water
- **Climate Change** – Shifting precipitation patterns due to climate change make water supply planning difficult. Areas of concern for California include reduced Sierra Nevada snowpack, increased intensity and frequency of extreme weather events, and rising sea levels.

4.1.1 *Water Quality of Supply*

Imported water comes from either Metropolitan or CDWC. Metropolitan's two primary sources of water, the Colorado River Aqueduct (CRA) and the State Water Project (SWP), each have their own individual water quality concerns. Water from the CRA tends to contain a higher level of total dissolved solids (TDS), while water from the SWP tends to have a higher level of organic materials. Metropolitan remediates this issue by way of blending the two sources in addition to treating the water.

Imported water from the Main San Gabriel Groundwater Basin through CDWC has a number of contaminants in limited parts of the basin which require monitoring and treatment prior to distribution. The primary contaminants include volatile organic compounds, nitrates, perchlorate, NDMA, trichloropropane, and hexavalent chromium.

Local groundwater from the La Habra Basin has been found to be impaired with high TDS, hydrogen sulfide, iron, and manganese, which the City provides treatment for to improve water quality to comply with State Health Standards.

It is expected that water quality concerns will have no effect on the projected water supply to the City through 2040.

4.2 Reliability Comparison

In the City's evaluation of different supply scenarios, it was assumed that imported water supplies are available through existing water transmission facilities. According to the evaluation performed by the City, it was found that the City has a water supply that is 106% reliable during normal years, single dry years, and multi-dry years through 2040, as can be seen in Table 13.

Table 13 – MWDOC Supply Reliability (Percentage of Normal AFY)

Wholesaler Sources	Single Dry (2014)	Multiple Dry Water Years		
		Year 1 (2012)	Year 2 (2013)	Year 3 (2014)
MWDOC	106%	106%	106%	106%

Source: City of La Habra 2015 Urban Water Management Plan, Table 3-5: Basis of Water Year Data (AF)

In the evaluation it was assumed that the demand would increase 6.8% using the fiscal year 2001-2002 as the base year. The following tables show the City’s projected water supply and demand through 2040 for the three scenarios.

Table 14 – Projected Normal Water Supply and Demand (AFY)

	Fiscal Year Ending				
	2020	2025	2030	2035	2040
Supply Total	8,606	9,152	9,165	9,182	9,158
Demand Total	8,606	9,152	9,165	9,182	9,158
Difference	0	0	0	0	0

Source: City of La Habra 2015 Urban Water Management Plan, Table 3-6: Normal Year Supply and Demand Comparison (AF)

Table 15 – Projected Single Dry Year Water Supply and Demand (AFY)

	Fiscal Year Ending				
	2020	2025	2030	2035	2040
Supply Total	9,122	9,701	9,715	9,733	9,707
Demand Total	9,122	9,701	9,715	9,733	9,707
Difference	0	0	0	0	0

Source: City of La Habra 2015 Urban Water Management Plan, Table 3-7: Single-Dry Year Supply and Demand (AF)

Table 16 – Projected Multi-Dry Year Period Supply and Demand (AFY)

		Fiscal Year Ending				
		2020	2025	2030	2035	2040
First Year	Supply Totals	9,122	9,701	9,715	9,733	9,707
	Demand Total	9,122	9,701	9,715	9,733	9,707
	Difference	0	0	0	0	0
Second Year	Supply Totals	9,122	9,701	9,715	9,733	9,707
	Demand Total	9,122	9,701	9,715	9,733	9,707
	Difference	0	0	0	0	0
Third Year	Supply Totals	9,122	9,701	9,715	9,733	9,707
	Demand Total	9,122	9,701	9,715	9,733	9,707
	Difference	0	0	0	0	0

Source: City of La Habra 2015 Urban Water Management Plan, Table 3-8: Multiple Dry Year Period Supply and Demand (AF)

5 Conclusion

1. The City of La Habra has been identified as the public water distributor for Rancho La Habra, and
2. The existing Westridge Golf Course had an average water usage of 276 AFY between 2011 - 2014, and
3. The calculated water demand for the Rancho La Habra development is 180 AFY, 96 AFY less than the average water usage of the existing golf course it will be replacing, and
4. The City of La Habra provides water service through the use of three sources:
 - (1) California Domestic Water Company – the City owns shares in CDWC and leases extra rights, which provides groundwater pumped from the Main San Gabriel Basin
 - (2) Municipal Water District of Orange County – imports water from the Metropolitan Water District of Southern California from two primary sources: State Water Project and Colorado River Aqueduct
 - (3) Local Groundwater – the City extracts water from the La Habra Basin
5. The City of La Habra has determined that based on existing demand conditions, it will have sufficient supplies for the next 20 years in normal years, single dry years, and multiple dry years.

Since the City has determined that it will have sufficient water supplies to meet the projected demand of the City with the golf course in service, and since the proposed Rancho La Habra development will use less water than the existing golf course, then it can be concluded that the City will have sufficient water supplies available to support the proposed Rancho La Habra development.

6 References

- City of La Habra, *2015 Urban Water Management Plan* (Arcadis, May 2016)
- *City of La Habra's General Plan, Appendix C – Technical Background for the General Plan Update*, dated September 2013
- State of California, Senate Bill 610 legislation (January, 2002)

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Appendix A

Westridge Golf Club Water Billing Data

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Westridge Golf Course Historical Water Billing by Month (Nov. 2010 - Mar. 2015)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
2010	-	-	-	-	-	-	-	-	-	-	6.7	3.57	10
2011	3.25	7.75	16.42	15.2	34.91	29.39	40.38	35	41.25	20.09	7.96	5.56	257
2012	8.09	6.81	12.39	15.36	27.21	29.39	40.54	51.16	31.51	24.54	13.86	0.98	262
2013	6.21	7.63	18.19	25.72	35.47	33.43	12.75	63.08	33.44	26.96	13.14	6.53	283
2014	12.05	12.27	13.7	28.12	42.06	25.34	58.83	55.41	13.79	25.08	12.76	3.02	302
2015	4.23	9.46	21.4	-	-	-	-	-	-	-	-	-	35
Average	6.77	8.78	16.42	21.10	34.91	29.39	38.13	51.16	30.00	24.17	10.14	3.93	276

Note: Grayed back numbers did not have billing data. Water usage based on averages and billing data from other years.

Westridge Historical Water Usage (November 2010 - December 2010)							
Billing Date	Account #	Prior Read	Current Read	Monthly Usage	Water Cost	AF/month	AF/month
11/29/2010	019045-000	802,933	805,780	2,847	7,741	6.54	6.70
	019028-000	776	789	13	97	0.03	
	019498-000	841	841	0	578	0.00	
	019497-000	12,687	12,745	58	209	0.13	
12/22/2010	019045-000	805,780	807,267	1,487	4,355	3.41	3.57
	019028-000	789	801	12	94	0.03	
	019498-000	841	841	0	578	0.00	
	019497-000	12,745	12,799	54	199	0.12	

Westridge Historical Water Usage (January 2011 - December 2011)							
Billing Date	Account #	Prior Read	Current Read	Monthly Usage	Water Cost	AF/month	AF/month
1/28/2011	019045-000	807,267	808,599	1,332	3,969	3.06	3.25
	019028-000	801	816	15	102	0.03	
	019498-000	841	841	0	578	0.00	
	019497-000	12,799	12,866	67	231	0.15	
3/3/2011	019045-000	808,599	811,899	3,300	8,869	7.58	7.75
	019028-000	816	828	12	94	0.03	
	019498-000	841	841	0	578	0.00	
	019497-000	12,866	12,929	63	221	0.14	
4/28/2011	019045-000	814,261	820,805	6,544	16,947	15.02	15.20
	019028-000			0		0.00	
	019498-000	841	841	0	578	0.00	
	019497-000	13,012	13,091	79	261	0.18	
7/29/2011	019045-000	846,940	864,449	17,509	48,224	40.20	40.38
	019028-000	862	867	5	78	0.01	
	019498-000	841	841	0	583	0.00	
	019497-000	13,297	13,371	74	251	0.17	
8/29/2011	019045-000	864,449	879,616	15,167	41,877	34.82	35.00
	019028-000	867	871	4	75	0.01	
	019498-000	841	841	0	584	0.00	
	019497-000	13,371	13,445	74	251	0.17	
9/28/2011	019045-000	879,616	897,492	17,876	49,246	41.04	41.25
	019028-000	871	876	5	78	0.01	
	019498-000	841	841	0	584	0.00	
	019497-000	13,445	13,533	88	286	0.20	
10/27/2011	019045-000	897,492	906,121	8,629	22,501	19.81	20.09
	019028-000	876	881	5	78	0.01	
	019498-000	841	841	0	584	0.00	
	019497-000	13,533	13,652	119	364	0.27	
11/29/2011	019045-000	906,121	909,511	3,390	9,168	7.78	7.96
	019028-000	881	884	3	73	0.01	
	019498-000	841	841	0	584	0.00	
	019497-000	13,652	13,728	76	226	0.17	
12/21/2011	019045-000	909,511	911,843	2,332	6,490	5.35	5.56
	019028-000	884	888	4	75	0.01	
	019498-000	841	841	0	584	0.00	
	019497-000	13,728	13,812	84	276	0.19	

Westridge Historical Water Usage (January 2012 - December 2012)								
Billing Date	Account #	Prior Read	Current Read	Monthly Usage	Water Cost	AF/month		
1/25/2012	019045-000	911,834	915,279	3,445	9,306	7.91	8.09	
	019028-000	888	893	5	78	0.01		
	019498-000	841	841	0	584	0.00		
	019497-000	13,812	13,886	74	251	0.17		
2/24/2012	019045-000	915,279	918,142	2,863	7,845	6.57	6.81	
	019028-000	893	901	8	85	0.02		
	019498-000	841	841	0	584	0.00		
	019497-000	13,886	13,983	97	309	0.22		
3/28/2012	019045-000	918,142	923,354	5,212	13,741	11.97	12.39	
	019028-000	901	945	44	176	0.10		
	019498-000	841	841	0	584	0.00		
	019497-000	13,983	14,122	139	414	0.32		
4/30/2012	019045-000	923,354	929,919	6,565	17,137	15.07	15.36	
	019028-000	945	962	17	108	0.04		
	019498-000	841	841	0	584	0.00		
	019497-000	14,122	14,230	108	336	0.25		
5/29/2012	019045-000	929,919	941,613	11,694	32,097	26.85	27.21	
	019028-000	962	975	13	98	0.03		
	019498-000	841	841	0	584	0.00		
	019497-000	14,230	14,374	144	427	0.33		
7/27/2012	019045-000	957,000	974,503	17,503	48,694	40.18	40.54	
	019028-000	990	1,029	39	165	0.09		
	019498-000	841	841	0	589	0.00		
	019497-000	14,515	14,634	119	368	0.27		
9/27/2012	019045-000	993,870	7,465	13,595		31.21	31.51	
	019028-000	1,039	1,061	22	122	0.05		
	019498-000	841	841	0	590	0.00		
	019497-000	14,772	14,881	109	343	0.25		
10/30/2012	019045-000	7,465	18,040	10,575	27,791	24.28	24.54	
	019028-000	1,061	1,066	5	79	0.01		
	019498-000	841	841	0	590	0.00		
	019497-000	14,881	14,991	110	345	0.25		
11/27/2012	019045-000			0	16,429	0.00	0.00	
	019028-000			0	109	0.00		
	019498-000			0	590	0.00		
	019497-000			0	317.4	0.00		
12/31/2012	019045-000	24,246	24,565	319	1,476	0.73	0.98	
	019028-000	1,071	1,084	13	99	0.03		
	019498-000	841	841	0	590	0.00		
	019497-000	15,073	15,167	94	305	0.22		

Westridge Historical Water Usage (January 2013 - December 2013)								
Billing Date	Account #	Prior Read	Current Read	Monthly Usage	Water Cost	AF/month		
1/24/2013	019045-000	24,565	27,155	2,590	7,244	5.95	6.21	
	019028-000	1,084	1,099	15	104	0.03		
	019498-000	841	841	0	590	0.00		
	019497-000	15,167	15,267	100	320	0.23		
2/26/2013	019045-000	27,155	30,306	3,151	8,669	7.23	7.63	
	019028-000	1,099	1,154	55	244	0.13		
	019498-000	841	841	0	590	0.00		
	019497-000	15,267	15,385	118	366	0.27		
3/29/2013	019045-000	30,306	38,079	7,773	20,409	17.84	18.19	
	019028-000	1,154	1,194	40	167	0.09		
	019498-000	841	841	0	590	0.00		
	019497-000	15,385	15,494	109	343	0.25		
4/30/2013	019045-000	38,079	49,185	11,106	28,875	25.50	25.72	
	019028-000	1,194	1,194	0	66	0.00		
	019498-000	841	841	0	590	0.00		
	019497-000	15,494	15,593	99	317	0.23		
5/30/2013	019045-000	49,185	64,489	15,304	42,248	35.13	35.47	
	019028-000	1,194	1,217	23	124	0.05		
	019498-000	841	841	0	590	0.00		
	019497-000	15,593	15,716	123	378	0.28		
6/27/2013	019045-000	64,489	78,934	14,445	40,353	33.16	33.43	
	019028-000	1,217	1,227	10	91	0.02		
	019498-000	841	841	0	590	0.00		
	019497-000	15,716	15,823	107	338	0.25		
7/31/2013	019045-000	78,934	84,349	5,415	15,867	12.43	12.75	
	019028-000	1,227	1,234	7	85	0.02		
	019498-000	841	841	0	603	0.00		
	019497-000	15,823	15,953	130	404	0.30		
8/29/2013	019045-000	84,349	111,713	27,364	77,811	62.82	63.08	
	019028-000	1,234	1,253	19	117	0.04		
	019498-000	841	841	0	604	0.00		
	019497-000	15,953	16,048	95	314	0.22		
9/30/2013	019045-000	111,713	126,167	14,454	41,405	33.18	33.44	
	019028-000	1,253	1,266	13	134	0.03		
	019498-000	841	841	0	604	0.00		
	019497-000	16,048	16,146	98	322.25	0.22		
10/31/2013	019045-000	126,167	137,773	11,606	31,205	26.64	26.96	
	019028-000	1,266	1,321	55	210	0.13		
	019498-000	841	841	0	604	0.00		
	019497-000	16,146	16,227	81	278	0.19		
11/25/2013	019045-000	137,773	143,414	5,641	15,349	12.95	13.14	
	019028-000	1,321	1,334	13	101	0.03		
	019498-000	841	841	0	604	0.00		
	019497-000	16,227	16,295	68	244	0.16		
12/23/2013	019045-000	143,414	146,177	2,763	7,866	6.34	6.53	
	019028-000	1,334	1,350	16	109	0.04		
	019498-000	841	841	0	604	0.00		
	019497-000	16,295	16,360	65	236	0.15		

Westridge Historical Water Usage (January 2014 - December 2014)								
Billing Date	Account #	Prior Read	Current Read	Monthly Usage	Water Cost	AF/month		
1/27/2014	019045-000	146,177	151,344	5,167	14,116	11.86	12.05	
	019028-000	1,350	1,357	7	118	0.02		
	019498-000	841	841	0	604	0.00		
	019497-000	16,360	16,434	74	260	0.17		
3/5/2014	019045-000	151,344	156,558	5,214	14,238	11.97	12.27	
	019028-000	1,357	1,394	37	164	0.08		
	019498-000	841	841	0	604	0.00		
	019497-000	16,434	16,528	94	312	0.22		
4/3/2014	019045-000	156,558	162,400	5,842	15,871	13.41	13.70	
	019028-000	1,394	1,437	43	180	0.10		
	019498-000	841	841	0	604	0.00		
	019497-000	16,528	16,609	81	278	0.19		
5/7/2014	019045-000	162,400	174,555	12,155	32,285	27.90	28.12	
	019028-000	1,437	1,445	8	88	0.02		
	019498-000	841	841	0	604	0.00		
	019497-000	16,609	16,697	88	296	0.20		
6/6/2014	019045-000	174,555	192,766	18,211	51,398	41.81	42.06	
	019028-000	1,445	1,451	6	83	0.01		
	019498-000	841	841	0	604	0.00		
	019497-000	16,697	16,801	104	338	0.24		
6/30/2014	019045-000	192,766	203,707	10,941	31,498	25.12	25.34	
	019028-000	1,451	1,457	6	83	0.01		
	019498-000	841	841	0	604	0.00		
	019497-000	16,801	16,894	93	309	0.21		
8/6/2014	019045-000	203,707	229,234	25,527	74,216	58.60	58.83	
	019028-000	1,457	1,463	6	85	0.01		
	019498-000	841	841	0	618	0.00		
	019497-000	16,894	16,989	95	321.75	0.22		
9/5/2014	019045-000	229,234	253,285	24,051	70,170	55.21	55.41	
	019028-000	1,463	1,469	6	85	0.01		
	019498-000	841	841	0	620	0.00		
	019497-000	16,989	17,070	81	285	0.19		
10/8/2014	019045-000	253,285	259,198	5,913	17,750	13.57	13.79	
	019028-000	1,469	1,477	8	91	0.02		
	019498-000	841	841	0	620	0.00		
	019497-000	17,070	17,155	85	296.09	0.20		
11/4/2014	019045-000	259,198	270,021	10,823	29,899	24.85	25.08	
	019028-000	1,477	1,481	4	80	0.01		
	019498-000	841	841	0	620	0.00		
	019497-000	17,155	17,251	96	325	0.22		
12/4/2014	019045-000	270,021	275,504	5,483	15,339	12.59	12.76	
	019028-000	1,481	1,482	6	85	0.01		
	019498-000	841	841	0	620	0.00		
	019497-000	17,251	17,322	71	259	0.16		
1/7/2015	019045-000	275,504	276,717	1,213	3,938	2.78	3.02	
	019028-000	5	11	6	85	0.01		
	019498-000	841	841	0	620	0.00		
	019497-000	17,322	17,417	95	323	0.22		

Westridge Historical Water Usage (January 2015 - December 2015)						
Billing Date	Account #	Prior Read	Current Read	Monthly Usage	Water Cost	AF/month
2/5/2015	019045-000	276,717	278,488	1,771	5,428	4.07
	019028-000	11	17	6	85	0.01
	019498-000	841	841	0	620	0.00
	019497-000	17,417	17,484	67	248	0.15
						4.23
3/4/2015	019045-000	278,488	282,530	4,042	11,491	9.28
	019028-000	17	24	7	88	0.02
	019498-000	841	841	0	620	0.00
	019497-000	17,484	17,556	72	261	0.17
						9.46
4/1/2015	019045-000	282,530	291,767	9,237	25,362	21.21
	019028-000	24	31	7	88	0.02
	019498-000	841	841	0	620	0.00
	019497-000	17,556	17,634	78	277	0.18
						21.40

Appendix B

BrightView Irrigation Demand

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Water Efficient Landscape Worksheet

Reference Evapotranspiration (Eto) **50.36**

Non-Residential

Hydrozone # / Planting descriptions	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (Sq.Ft.)	ETAF x Area	Estimated Total Waer Use (ETWU) Gal/Year	Estimated Total Waer Use (ETWU) (AFY)	Dwelling Unit	Area (sf/unit)	Area (Acres)	% Irrigated
Regular Landscape Area												
Single Family Yard	0.4	drip	0.81	0.49	249,300	123,111	3,843,923	11.80	277	900	5.7	100%
Multi Family Yard	0.4	drip	0.81	0.49	48,500	23,951	747,815	2.30	194	250	1.1	100%
HOA Private Open Space (Show)	0.4	Spray	0.75	0.53	286,407	152,750	4,769,356	14.64			26.3	25%
HOA Private Open Space (Trans)	0.2	Spray	0.75	0.27	859,221	229,126	7,154,034	21.96				75%
Community Center & Park	0.4	drip	0.81	0.49	248,292	122,613	3,828,381	11.75			7.6	75%
Public Park & Picnic Area (shrub)	0.4	Spray	0.75	0.53	196,020	104,544	3,264,198	10.02			9	50%
Public Park & Picnic Area (turf)	0.7	Spray	0.75	0.93	196,020	182,952	5,712,347	17.53				50%
Public Linear Park	0.2	Spray	0.75	0.27	378,972	101,059	3,155,392	9.68			11.6	75%
Private Park	0.4	Spray	0.75	0.53	8,712	4,646	145,075	0.45			0.2	100%
Regular Landscape Area Totals:					2,471,444	1,044,753						
Special Landscape Area												
				1		-	-					
Special Landscape Area Totals:					0	0						
							ETWU Total:	32,620,521	100.12			
Maximum Allowed Water Allowance (MAWA)												
Over All Landscape Area Totals:					2,471,444	MAWA Total:	34,724,876	106.57				

^a **Hydrozone #/ Planting Description**

- E.g
- 1.) front lawn
 - 2.) low water use plantings
 - 3.) medium water use planting

^b **Irrigation Method**

- overhead spray
- or drip

^c **Irrigation Efficiency**

- 0.75 for spray
- 0.81 for drip

^d **ETWU (Annual Gallons Required) = Eto x**

0.62 x ETAF x Area
 where 0.62 is a conversion factor that acre-inches per acre per year to gallons per square foot per year.

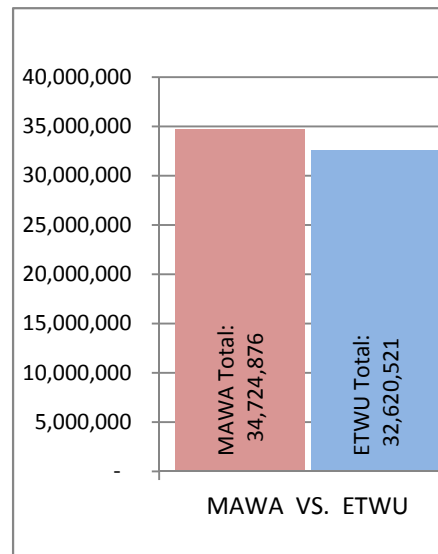
^e **MAWA (Annual Gallons Allowed) = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]**

where 0.62 is a conversion factor that acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Area		All Landscape Area (Including special landscape area)	
Total ETAF x Area	1,044,753	Total ETAF x Area	1,044,753
Total Area	2,471,444	Total Area	2,471,444
Average ETAF	0.42	Sitewide ETAF	0.42

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.



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Appendix C

Water Demand Comparison Between Development Conditions

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Rancho La Habra Estimated Water Usage – 49 Multi-Family Homes

Indoor Water Usage						
Land Use	Unit Count	People per Unit	Population	Water Usage (gpcd)	Daily Usage (gpd)	Yearly Usage (AFY)
Single Family	277	3.25	900	45	40,511	45
Multi Family	194	3.25	631	45	28,373	32
Community Center	-	-	150	15	2,250	3
Total Indoor Water Use	-	-	-	-	-	80
Outdoor Water Usage						
Land Use	Unit Count	Area (sf/unit)	Area (acres)	% Irrigated	Plant Factor / Irrigation Efficiency	Yearly Usage (AFY)
Single Family Yard	277	900	5.7	100	0.49	11.8
Multi Family Yard	194	250	1.1	100	0.49	2.3
Private Open Space (Show)	-	-	6.6	100	0.53	14.6
Private Open Space (Trans)	-	-	19.7	100	0.27	22.0
Community Center and Park	-	-	7.6	75	0.49	11.7
Public Park and Picnic Area (shrubs)	-	-	4.5	100	0.53	10.0
Public Park and Picnic Area (turf)	-	-	4.5	100	0.93	17.5
Public Linear Park	-	-	11.6	75	0.27	9.7
Private Park	-	-	0.2	100	0.53	0.5
Total Outdoor Water Use	-	-	-	-	-	100
Total Water Usage						
Indoor Water Use (AFY)						80
Outdoor Water Use (AFY)						100
Total Water Use (AFY)						180

Rancho La Habra Estimated Water Usage – 20,000 Square Feet Retail

Indoor Water Usage						
Land Use	Unit Count	People per Unit	Population	Water Usage (gpcd)	Daily Usage (gpd)	Yearly Usage (AFY)
Single Family	277	3.25	900	45	40,511	45
Multi Family	145	3.25	471	45	21,206	24
Community Center	-	-	150	15	2,250	3
Restaurants and Shops	20,000 sf	-	-	5,100 (gpd/ac)	2,340	3
Total Indoor Water Use	-	-	-	-	-	74
Outdoor Water Usage						
Land Use	Unit Count	Area (sf/unit)	Area (acres)	% Irrigated	Water Demand (AFY/ac)	Yearly Usage (AFY)
Single Family Yard	277	900	5.8	100	2.0	11.7
Multi Family Yard	145	250	0.8	100	2.0	1.7
Existing Slope	-	-	23.0	0	2.0	0.0
Private Open Space (Show)	-	-	8.3	100	2.2	18.3
Private Open Space (Trans)	-	-	24.8	100	1.1	28.0
Public Community Center and Park	-	-	5.4	75	2.0	8.3
Public Park and Picnic Area (shrubs)	-	-	4.1	100	2.2	9.1
Public Park and Picnic Area (turf)	-	-	4.1	100	3.9	15.9
Public Linear Park	-	-	7.7	75	1.1	6.5
Wildlife Viewing Area	-	-	15.4	0	2.0	0
Water Quality Basin	-	-	1.2	0	2.2	0.0
Private Park	-	-	0.2	100	2.2	0.4
Total Outdoor Water Use	-	-	-	-	-	100
Total Water Usage						
Indoor Water Use (AFY)						74
Outdoor Water Use (AFY)						100
Total Water Use (AFY)						174