

## IV.F UTILITIES

### 2. WATER SUPPLY

The purpose of this section is to assess the potential impacts to local and regional water service systems serving the project site. This analysis of the potential impacts to water system facilities and available supplies based, in part, on the Water System Technical Report prepared for the proposed project by PSOMAS in June 2010. This study is included in its entirety as Appendix J of this EIR.

#### EXISTING CONDITIONS

Pasadena Water and Power (PWP) supplies water to customers within the City of Pasadena and unincorporated areas of Los Angeles County to the north and southeast of the City.<sup>1</sup>

#### WATER SUPPLY

The PWP provides approximately 37,094 acre-feet per year (AFY) of water to its customers.<sup>2,3</sup> Sources of PWP's water supply include local surface water, groundwater, and imported water. Additional water supplies are also available through short-term water exchanges with neighboring agencies. The PWP attempts to maximize its groundwater supplies each year and then use imported water to meet the remaining water demanded by its customers. Currently, groundwater and imported water from the Metropolitan Water District (MWD) represent 40 and 60 percent of PWP's water supply, respectively.

Sources of the PWP's local surface water include two streams that flow within its service area (i.e. Arroyo Seco and Eaton Canyon). The PWP has the ability to divert surface water for treatment and direct use into its water supply and diverts up to 25 and 8.9 cubic feet per second from the Arroyo Seco and Eaton Canyon, respectively. Although the PWP can treat and use diverted water from Arroyo Seco and Eaton Canyon directly, it elects, instead, to divert and spread water from the two streams into spreading basins where water percolates into the ground. Diverting local surface water from the two streams into spreading basins allows for the PWP to obtain spreading credits which can be utilized to pump groundwater later in the future.<sup>4</sup>

The PWP obtains its groundwater from the Raymond Basin, which is a large aquifer that underlies the City and surrounding region. The Raymond Basin's groundwater production is approximately 30,000 AFY and has a potential to store large amounts of imported water for drought purposes. The Raymond Basin can store up to 16 times the amount of water consumed by residents living above it. The City of Pasadena has a right to pump 12,807 AFY of water with additional pumping rights each year based upon spreading surface water diversions from the Arroyo Seco and Eaton Canyon. Spreading credits vary year to year, but the PWP averages approximately 4,128 AFY in credits since 1994. Thus, on the average, the PWP has a right to pump 16,935 AFY of water from the Raymond Basin. The PWP is currently operating seven wells that have a combined capacity of 15,200 AFY.

<sup>1</sup> City of Pasadena Department of Water and Power, 2005 Urban Water Management Plan.

<sup>2</sup> Based on the average PWP total production over the past 10 years.

<sup>3</sup> One acre-foot of water is equivalent to approximately 325,851 gallons of water.

<sup>4</sup> City of Pasadena Department of Water and Power, 2005 Urban Water Management Plan.

In 2007, a study commissioned by the Raymond Basin Management Board (Watermaster) showed that in certain areas of the Raymond Basin, groundwater production is greater than net recharge, which has led to decreases in groundwater levels and increased depth-to-pumping. The study's findings led the Watermaster to adopt a resolution, in March of 2009, to reduce Pasadena's pumping allocation in the Pasadena subarea of the Raymond Basin. Pasadena's rights will be reduced by five percent a year to a total of 30 percent within six years. The first reduction of 417 AF will be in effect starting July 1, 2009.

The PWP obtains imported water from the MWD through a purchase order arrangement. Under the contract, MWD charges for water supply under a two-tiered rate structure. PWP has the right to purchase up to 90 percent of their initial base demand at Tier 1 rates. Initial base demand is calculated as the maximum firm demand for MWD water over a 10-year period since 1989. Tier 1 rates are set by MWD to recover its costs of maintaining a reliable supply. Any amount higher than 90 percent of base demand is charged at higher Tier 2 rates to encourage efficient utilization of local resources and include MWD's costs for developing additional supplies. Sources of MWD's water supply include the MWD-owned Colorado River Aqueduct and the State Water Project (SWP) California Aqueduct that convey water from the Colorado River and Northern California, respectively.

The MWD's water supply from the Colorado River currently faces challenges that include risk of continued drought in the Colorado River Basin and pending litigation that may threaten implementation of part or all of the Quantification Settlement Agreement (QSA) related to the supplies of all the California users of the Colorado River. The MWD has been aggressively preparing for these two risks to its Colorado River supply for many years.<sup>5</sup> The MWD's responses to these challenges are discussed in the Water Technical Report within Appendix J of this EIR.

In 2005, the City published its 2005 Urban Water Management Plan (UWMP). In the UWMP, the City projected water supply and demand during normal year, single dry year, and multiple dry year scenarios. **Table IV.F.2-1** shows the projected water supply and demand during normal and single dry year scenarios from 2010 to 2030. As shown in **Table IV.F.2-1**, the PWP did not forecast any water deficits under the normal year supply scenario. Under the single dry year scenario, the PWP projected that it will have water deficits. The PWP plans to pump water from its long-term water storage within the Raymond Basin (Basin) should it experience deficits.<sup>6</sup>

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<sup>5</sup> *Id.* at 25.

<sup>6</sup> City of Pasadena Department of Water and Power, 2005 Urban Water Management Plan.

TABLE IV.F.2-1 PWP Projected Normal And Single Dry Year Supply And Demand PWP Service Area Normal and Single Dry Year Supply from 2010 to 2030					
Supply Type	Water Supply (AFY) by Year				
	2010	2015	2020	2025	2030
<b>NORMAL YEAR SUPPLY</b>					
Supply	39,957	41,291	42,624	43,959	45,293
Demand	39,957	41,291	42,624	43,959	45,293
Difference	0	0	0	0	0
<b>SINGLE DRY YEAR SUPPLY</b>					
Supply	32,318	32,318	32,318	32,318	32,318
Demand <sup>1</sup>	33,963	35,097	36,230	37,365	38,497
Difference	(1,645)	(2,779)	(3,912)	(5,047)	(6,179)
<sup>1</sup> Dry Year Demand is 85 percent of Normal Year Demand. <b>SOURCE:</b> Colorado at Lake EIR Water System Technical Report, PSOMAS, June 2010.					

In 2008, PWP supplied a total of 37,174 acre-feet (AF) of water, of which 24,380 AF was from imported water and 11,846 AF was from groundwater with approximately 948 AF from local water exchanges.<sup>7</sup> Water use in PWP's service area is approximately two-thirds residential and one-third commercial/industrial. Total system per capita water use (excluding agricultural water use) averages 170 gallons per day (gpd). There were 36,956 water connections in 2008. Since 1990, new water connections have been added at a rate of approximately 0.15 percent per year. However, demand for water has remained relatively constant with the implementation of water efficiency improvements. **Table IV.F.2-2** shows water supply and demand under the multiple dry year scenarios from 2010 to 2030.

<sup>7</sup> One acre-foot of water is equivalent to 325,851 gallons of water.

TABLE IV.F.2-2 PWP Projected Normal And Multiple Dry Year Supply And Demand					
PWP Service Area Normal and Single Dry Year Supply from 2011 to 2015					
Supply Type	Water Supply (AFY) by Year				
	2011	2012	2013	2014	2015
Supply	40,224	40,491	36,861	31,665	34,294
Demand	40,224	40,491	40,757	34,870	35,097
Difference	0	0	(3,896)	(3,205)	(803)
Pumped from Long Term Storage	0	0	3,896	3,205	803
Long Term Storage Balance	24,221	24,221	20,325	17,120	16,137
Annual Net Deficit	0	0	0	0	0
PWP Service Area Normal and Single Dry Year Supply from 2016 to 2020					
Supply Type	Water Supply (AFY) by Year				
	2016	2017	2017	2019	2020
Supply	41,559	41,826	36,961	31,665	34,294
Demand	41,559	41,826	42,092	36,005	36,232
Difference	0	0	(5,231)	(4,340)	(1,938)
Pumped from Long Term Storage	0	0	5,231	4,340	1,938
Long Term Storage Balance	24,221	24,221	18,990	14,650	12,712
Annual Net Deficit	0	0	0	0	0
PWP Service Area Normal and Single Dry Year Supply from 2021 to 2025					
Supply Type	Water Supply (AFY) by Year				
	2021	2022	2023	2024	2025
Supply	42,891	43,158	36,961	31,665	34,294
Demand	42,891	43,158	43,424	43,691	43,957
Difference	0	0	(6,563)	(5,472)	(3,070)
Pumped from Long Term Storage			6,563	4,472	3,070
Long Term Storage Balance	24,221	24,221	17,658	12,186	9,116
Annual Net Deficit	0	0	0	0	0
PWP Service Area Normal and Single Dry Year Supply from 2026 to 2030					
Supply Type	Water Supply (AFY) by Year				
	2026	2027	2028	2029	2030
Supply	44,226	44,493	36,861	31,665	34,294
Demand	44,226	44,493	44,759	38,272	38,499
Difference	0	0	(7,898)	(6,607)	(4,205)
Pumped from Long Term Storage	0	0	7,898	6,607	4,205
Long Term Storage Balance	24,221	24,221	16,323	9,716	5,511
Annual Net Deficit	0	0	0	0	0
<sup>1</sup> Dry Year Demand is 85 percent of Normal Year Demand <b>SOURCE:</b> Colorado at Lake EIR Water System Technical Report, PSOMAS, June 2010.					

As shown in **Table IV.F.2-2**, the City would meet projected water demand by utilizing water from its long-term storage balances. The City's ability to meter water deficits during the multiple dry year scenarios is based upon its long-term storage reserve it maintains within the Basin. **Table IV.F.2-2** projects the City to utilize its long-term storage balance of water at the beginning of the

third year of each five-year interval. Each year from 2011 to 2030 is projected to have an annual net deficit of zero. In the final year of the 2026 to 2030 interval, the projected long-term storage balance would be 5,511 AF, implying that the projected water supplies and long-term storage water balances would be adequate. Although projected water supplies and long-term storage balances would be adequate to meet water demand, it is important for the PWP to take steps to boost its reserves. As such, the PWP is planning to take the following steps to provide additional assurance that it will be able to maintain deliveries:

- In the short-term, PWP will restore most of the out-of-service wells into production by installing perchlorate treatment systems.
- In the long-term, PWP will maintain deliveries through aggressive conservation programs and the implementation of recycled water for irrigation purposes.
- PWP will cooperate with the watershed planning efforts in the Arroyo Seco to develop the plan to increase the capacity of its spreading basins.

In addition, the City has two water conservation goals related to the Urban Environmental Accords and the Governor's 20 percent by 2020 reduction. The City actively seeks to reduce potable water consumption by 10 percent by year 2015 and to further decrease consumption by an additional 5 percent by the year 2020 to be consistent with the Governor's 20 percent reduction by 2020.

The comparisons in **Tables IV.F.2-2** and **IV.F.2-3** are based on the assumption that MWD is forced to curtail its deliveries during a drought. In reality, MWD has performed its own multiple dry year analysis and has determined that it would be able to maintain deliveries to its member agencies even in the event of a historical multiple dry year periods. However, by taking the steps above, PWP will ensure that it can reliably maintain its own supply in the event that MWD experiences delays in implementing its IRP, as well as providing a buffer against uncertainty. An analysis of the MWD's water supply reliability is discussed in the Water Technical Report within Appendix J of this EIR.

#### LOCAL REGULATORY SETTING

PWP has many options at hand to address potential water supply issues, arising from either a reduction in its MWD allocations or its ability to pump groundwater from the Pasadena sub-area of the Raymond Basin. Throughout the end of 2009, PWP has taken the following steps to update its approach to water supply issues: (1) adopted a Comprehensive Water Conservation Plan (CWCP), (2) implemented a Water Waste Prohibition and Water Shortage Plan (WWP/WSP) Ordinance, and (3) worked on other water supply management projects.

Comprehensive Water Conservation Plan (CWCP). On April 13, 2009, the City Council adopted the CWCP.<sup>8</sup> As a long-term goal, the CWCP presupposes an initial target of reducing per-capita potable water consumption 10 percent by 2015 and 20 percent by 2020. Whereas PWP's past water conservation programs relied heavily on indoor efficiency, the CWCP reflects an emphasis on using price signals in rate design to encourage conservation; increased emphasis on outdoor water efficiency; and maximizing efficiencies related to new construction.

<sup>8</sup> [http://www.cityofpasadena.net/councilagendas/2009%20agendas/Apr\\_13\\_09/agendarecap.asp](http://www.cityofpasadena.net/councilagendas/2009%20agendas/Apr_13_09/agendarecap.asp)

The CWCP includes six water conservation approaches that are being pursued simultaneously to meet the City's water conservation targets:

1. Implement Water Conservation Rate Design:
  - Modified block rate structure with higher cost tiers for high water use
  - Develop a budget-based water rate proposal
2. Adopt Sustainable Water Supply Ordinances:
  - Establish a Permanent Water Waste Prohibition Ordinance
  - Modify existing Water Shortage Ordinance
  - Adopt a Water Efficient Landscape Ordinance
  - Evaluate potential effectiveness of a Fixture Replacement on Resale Ordinance, and adopt, if appropriate
  - Review the Gray Water Systems and Storm Water Capture Ordinances and update or modify, as appropriate
  - Adopt appropriate water use limitations and mitigation measures associated with new development
3. Provide Incentives for Use of Water Efficient Technology and Practices:
  - Indoor fixture incentives
  - Irrigation technology incentives
  - Water-efficient landscape and turf replacement incentives
4. Provide Direct Installation and Distribution of Efficient Technologies;
5. Provide Water Use Audits; and
6. Provide Water Use Information, Education, and Outreach:
  - Usage data on bills
  - Appropriate water use standards or guidelines
  - Efficient indoor and outdoor water use practices.<sup>9</sup>

In June of 2009 the City approved an increase to water rates as envisioned by the CWCP and these rates became effective in August 2009.<sup>10</sup> Two more step increases are planned to take place in 2010 and 2011.

Water Waste Prohibition and Water Shortage Plan (WWP/WSP) Ordinance. Effective July 4, 2009, the City implemented a Water Shortage Procedures Ordinance.<sup>11</sup> The Water Shortage Procedures Ordinance includes a number of permanent water waste prohibitions as well as procedures that would be initiated in the event of a water shortage. With passage of the ordinance, the following instances of water usage waste will be permanently prohibited:

- No watering outdoors between 9 a.m. and 6 p.m., except with a hand-held container or hose with a shut-off nozzle, or for very short periods when adjusting a sprinkler system;
- No watering during periods of rain;
- No excessive water flow or runoff onto pavement, gutters or ditches from watering or

<sup>9</sup> [http://www.cityofpasadena.net/councilagendas/2009%20agendas/Apr\\_13\\_09/5D1.pdf](http://www.cityofpasadena.net/councilagendas/2009%20agendas/Apr_13_09/5D1.pdf).

<sup>10</sup> <http://ww2.cityofpasadena.net/waterandpower/YourWater/WaterRates/>.

<sup>11</sup> [http://ww2.cityofpasadena.net/waterandpower/watershortage/default.asp#water\\_waste](http://ww2.cityofpasadena.net/waterandpower/watershortage/default.asp#water_waste).

- irrigating landscapes or vegetation of any kind;
- No washing down paved surfaces unless for safety or sanitation, in which case a bucket, a hose with a shut-off nozzle, a cleaning machine that recycles water or a low-volume/high-pressure water broom must be used;
- All property owners must fix leaks, breaks or malfunctions when they find them, or within seven days of receiving a notice from PWP;
- Fountains and water features must have a re-circulating water system;
- Vehicles must be washed with a hand-held bucket and/or hose equipped with a water shut-off nozzle (does not apply to commercial car washes);
- Restaurants may not serve drinking water unless by request and must use water-saving dish wash spray valves;
- No installation of non-recirculating water systems at new commercial car washes and laundry systems. Effective July 1, 2010, all commercial car washes must have a re-circulating water system or secure a city waiver.
- Hotels and motels must give guests the option to decline daily bed linen and towel changes.
- No installation of “single pass cooling systems” in buildings requesting new water service.

*Water Efficient Landscape Ordinance.* Pursuant to the requirements of Article 10.8 of the Government Code (“Water Conservation in Landscaping Act,” Govt. Code §§ 65591 et. seq.), on March 9, 2010 Pasadena’s City Council directed the preparation of a Water Efficient Landscape Ordinance, modeled after the Department of Water Resources model ordinance. The model ordinance limits irrigation of certain new and existing landscaped area to a calculated amount of water. This water limit is determined by a mathematical formula based on the size of the landscaped area, type of plant material, regional climate, and other variables. It is anticipated that the ordinance will be completed and in effect by the summer of 2010.

*Water Integrated Resource Plan.* PWP recognizes the concern about current shortfalls in supply, and predictions of long-term drought, and in early 2010 embarked on crafting a Water Integrated Resources Plan (WIRP). The WIRP will be Pasadena’s blueprint for ensuring reliable, cost-effective, and environmentally responsible water supply for the next twenty-five years. It will take into consideration available and alternative supplies, demand forecasts, climate change and conservation.

*Other PWP Water Supply Management Projects.* Just as MWD has done, PWP has maintained its supply reliability in the face of supply uncertainties in the past, and is actively managing its supplies to ensure the reliability for the future. As a primary example, the City maintains a contract with the City of Glendale for the provision of recycled water, and has the right to 6,000 AFY of recycled water from the Los Angeles/Glendale Water Reclamation Plant. The City has the right to take this allocation at a point of connection in Scholl Canyon, on the northwestern end of Pasadena. Although implementation of the pipe construction project to bring recycled water into Pasadena has been on hold since 1995, the City has already begun the work necessary to re-start implementation of that project. Funding for the initial planning of this project is currently available. As additional funding can be secured, the City anticipates increasingly offsetting the use of potable water for landscaping with recycled water, thus leaving more potable water for other uses. Through these efforts, PWP anticipates serving demand in the City as forecast in the City’s General Plan and Urban Water Management Plan into the foreseeable future.

## EXISTING SITE WATER CONSUMPTION AND INFRASTRUCTURE

The project site is currently developed with the former Constance Hotel, various retail and restaurant uses, a bank with drive-up tellers, and a parking garage. A map of the existing water lines serving the project site is shown in Exhibit 1 of the Water System Technical Report included in Appendix J of this EIR. Existing PWP water lines that serve the project site include a 20-inch water line in Colorado Boulevard, a 12-inch water line in Lake Avenue, and an 8-inch line in Mentor Avenue. According to the PWP, the existing available fire flow is 2,568 gallons per minute (gpm) at 52 pounds per square inch (PSI) for the 20-inch line beneath Colorado Boulevard, 2,657 gpm at 54 PSI for the 12-inch line within Lake Avenue, and 1,721 gpm at 58 PSI for the 8-inch line within Mentor Avenue.<sup>12</sup> **Table IV.F.2-3** sets forth the existing water usage on the project site.

TABLE IV.F.2-3 Existing Estimated Water Usage From Project Site				
Use	Units	Water Use Rate <sup>1</sup> (GPD)	Water Use	
			GPD	acre-ft/yr
Hotel <sup>2</sup>	136 rooms	150/room <sup>3</sup>	20,400	22.9
Bank/Office	24,885 sq. ft.	200/1,000 sq. ft.	4,977	5.6
Retail	5,371 sq. ft.	100/1,000 sq. ft.	537	0.6
Restaurant (5,640 sq. ft.) <sup>4</sup>	184 seats	50/seat	9,200	10.3
Parking Structure	7,500 sq. ft.	25/1,000 sq. ft.	188	0.2
<b>TOTAL</b>			<b>35,302</b>	<b>39.6</b>
<sup>1</sup> Determined per Los Angeles County Design Guideline Estimated Average Daily Sewage Flows for Various Occupancy, per Table 4. <sup>2</sup> Although the existing hotel has been unoccupied for over one year, water usage of the site would have been recorded in the 2005 Urban Water Management Plan. Since this usage would have included the existing hotel (most recently was used as a nursing home), calculations assume the hotel is occupied in the existing baseline condition. <sup>3</sup> Water generation rate for a nursing home is not listed by the County of Los Angeles and is assumed to be equal to that of a hotel. <sup>4</sup> Assumes 65 percent of area is used for seating and 1 seat per 20 sq. ft. for restaurant quantity estimate. <b>SOURCE:</b> Colorado at Lake EIR Water System Technical Report, PSOMAS, June 2010.				

## ENVIRONMENTAL IMPACTS

### THRESHOLD OF SIGNIFICANCE

The proposed project would have a significant impact on water supply if:

- Require or result in the construction of new facilities or expansion of existing facilities.
- There were insufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed.

<sup>12</sup> Written correspondence, from Pasadena Water and Power, August 21, 2009. See Exhibit 2 of the Water System Technical Report, Appendix J.

Based upon criteria established in the CEQA Thresholds Guide, whether or not the proposed project would have a significant impact is determined on a case-by-case basis considering the following factors:

- The total estimated water demand for the project;
- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project build-out;
- The amount by which the project would cause the projected growth in population, housing, or employment for the Plan area to be exceeded in the year of the project completion; and
- The degree to which scheduled water infrastructure improvements or project design features would reduce or offset service impacts.

### *PROJECT IMPACTS*

Construction of the proposed project would occur in three phases that include: (1) the renovation of the existing hotel building, (2) demolition of the existing retail/restaurant and bank buildings, and construction of the hotel addition, new retail, restaurant and condominium uses, and (3) the construction of additional retail, restaurant, replacement bank and office building space. New water infrastructure serving the proposed project would include a new 4-inch fire water service lateral along Mentor Avenue. Additionally, a new 6-inch fire water service lateral will be required along Colorado Boulevard. A new 4-inch domestic water service will be required along Colorado Boulevard and a new 4-inch domestic water service will be required along Lake Avenue. A new fire hydrant will be required along Mentor Avenue at Colorado Boulevard. Additionally, a new fire hydrant will be required along Lake Avenue at the southerly project boundary.

**Table IV.F.2-4** shows the estimated gross (147,338 gpd) and net (82,568 gpd) water consumption for the proposed project and **Table IV.F.2-5** shows this consumption broken down by Average Daily Flow, Peak Dry Daily Flow, and Peak Daily Flow. As **Table IV.F.2-5** shows, the net change of water usage generated during the average daily flow, peak dry daily flow, and peak wet daily flow scenarios is 0.11, 0.22, and 0.29 mgd, respectively.

TABLE IV.F.2-4 Estimated Water Usage For The Proposed Project				
Use	Quantity	Water Use Rate <sup>1</sup> (GPD)/unit)	Water Use	
			GPD	acre-ft/yr
<b>RESIDENTIAL</b>				
Condominium	5 dwelling units	250/dwelling unit	1,250	1.4
<b>TOTAL RESIDENTIAL</b>			<b>1,250</b>	<b>1.4</b>
<b>COMMERCIAL</b>				
Hotel Rooms	156 rooms	150/room	23,400	26.2
Retail	22,410 sq. ft.	100/1,000 sq. ft.	2,241	2.5
Restaurant (37,871 sq. ft.)	1,237 seats <sup>2</sup>	50/seat	61,550	68.9
Office	103,410 sq. ft.	200/1,000 sq. ft.	20,682	23.2
Parking Structure	239,385 sq. ft.	25/1,000 sq. ft.	5,985	6.7
<b>TOTAL COMMERCIAL</b>			<b>113,858</b>	<b>127.5</b>
<b>OUTDOOR WATER USE</b>			<b>32,230</b>	<b>36.1</b>
<b>TOTAL</b>			<b>147,338</b>	<b>165.0</b>
<i>LESS EXISTING USES</i>			<i>35,302</i>	<i>39.6</i>
<b>NET INCREASE BEFORE WATER CONSERVATION DESIGN SCENARIO</b>			<b>112,036</b>	<b>125.4</b>
<i>LESS ADDITIONAL WATER CONSERVATION<sup>3</sup></i>			<i>29,468</i>	<i>33.0</i>
<b>NET INCREASE WITH WATER CONSERVATION DESIGN SCENARIO</b>			<b>82,568</b>	<b>92.4</b>
<sup>1</sup> Determined per Los Angeles County Design Guideline Estimated Average Daily Sewage Flows for Various Occupancy, per Table 4. <sup>2</sup> Assumes 65 percent of area is used for seating and 1 seat per 20 sq. ft. for restaurant quantity estimate. <sup>3</sup> Assumes 20 percent water conservation due to use of water efficient plumbing fixtures. <b>SOURCE:</b> Colorado at Lake EIR Water System Technical Report, PSOMAS, June 2010.				

TABLE IV.F.2-5 Estimated Project Water Usage			
Development	Average Daily Flow (MGD) <sup>1</sup>	Peak Daily Flow (MGD) <sup>2</sup>	Peak Wet Daily Flow (MGD) <sup>3</sup>
<b>Existing</b>	0.04	0.08	0.10
<b>Proposed</b>	0.15	0.30	0.39
<b>Net Change</b>	+0.11	+0.22	+0.29
<sup>1</sup> Per Table IV.F.2-2. <sup>2</sup> A factor of 2 is used to adjust Average Daily Flow Rate to Peak Dry Daily Flow Rate. <sup>3</sup> A factor of 1.3 is used to adjust Peak Dry Daily Flow Rate to Peak Wet Daily Flow Rate <b>SOURCE:</b> Colorado at Lake EIR Wastewater/Sewer System Technical Report, PSOMAS, June 2010.			

According to PWP<sup>13</sup>, the existing available fire flow is 2,568 gallons per minute (GPM) at 52 PSI for the 20-inch line within Colorado Boulevard, 2,657 GPM at 54 PSI for the 12-inch line within Lake Avenue and 1,721 GPM at 58 PSI for the 8-inch line within Mentor Avenue. Since the existing facilities have been determined to be adequate, full build-out of the proposed project will

<sup>13</sup> Pasadena Water and Power Letter "Fire Flow Results for 880 Colorado Blvd.", (August 21, 2009). See Exhibit 2 in Appendix J.

not require improvements to the existing local water distribution system or the installation of additional water distribution lines for the development.<sup>14</sup>

Although new local infrastructure is not needed, there are overall concerns of adequate water supply within the City, and the proposed project would generate increased demand for water. However, the PWP would be able to supply the projected demand based on existing entitlements provided the project incorporates conservation. As the City is currently under a Level 1 Water Supply Shortage declaration per PMC 13.10.040, the project will comply with all requirements of Pasadena Municipal Code (PMC) Title 13 during any water shortage declaration. Specifically, PMC Section 13.10.032 establishes the following water waste prohibitions that the proposed project would be required to adhere to:

- There will be no watering outdoors between 9 a.m. and 6 p.m., except with a hand-held container or hose with a shut-off nozzle, or for very short periods when adjusting a sprinkler system.
- There will be no watering during periods of rain.
- There will be no excessive water flow or runoff onto pavement, gutters or ditches from watering or irrigating landscapes or vegetation of any kind.
- There will be no washing down of paved surfaces unless for safety or sanitation, in which case a bucket, a hose with a shut-off nozzle, a cleaning machine that recycles water or a low-volume/high-pressure water broom must be used.
- The property owners will fix leaks, breaks or malfunctions when discovered.
- Fountains and water features will have re-circulating water systems.
- Vehicles will be washed with a hand-held bucket and/or hose equipped with a water shut-off nozzle.
- Restaurants will not serve drinking water unless by request and will use water-saving dish wash spray valves.
- There will be no installation of non-re-circulating water systems at new laundry systems.

In addition, the proposed project will meet the City of Pasadena's Green Building Program requirements and comply with pre-requisites in the five primary categories of Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality. Nevertheless, specific mitigation is proposed to ensure that City water conservation targets are met or exceeded. As such, strategies under LEED Water Efficiency Credit 3.1 would be employed as a mitigation measure to meet the City's requirement for a project to conserve at least 20 percent of its potable water usage. LEED Water Efficiency Credit 3.1 employs strategies that in aggregate use 20 percent less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall

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<sup>14</sup> Email correspondence from Natalie Zwinkels, P.E., Associate Engineer, Pasadena Water and Power, dated October 27, 2009. See Exhibit 3 in Appendix J.

include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.

## MITIGATION MEASURES

IV.F.2-1 Consistent with LEED New Construction and Major Renovations, Water Efficiency Credit 3.1, the project shall employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.

- Implementation of fixtures that meet or exceed those fixtures listed in LEED NC V3.0 Credit Number 3 in the table titled “Commercial and Residential Fixtures”.
- Renovation of the existing hotel will include replacement of toilets with high efficiency toilets and replacement of shower heads with low flow shower heads and faucets.
- Restrooms in the proposed residential units will include high efficiency toilets as well as low flow shower heads and faucets.
- Restrooms in the proposed office and retail areas will include waterless urinals, high efficiency toilets and low flow faucets.
- The project will install drought-resistant landscaping and an automated irrigation system.
- Hotel linen services will not be provided on-site.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure IV.F.2-1 would result in a 20 percent reduction of water usage under typical baseline usage of gross projected volume on County of Los Angeles water usage rates, type of facility, and number of units or amount of square footage. This measure would achieve project consistency with the City’s goal of increasing water conservation by 20 percent by 2020. Furthermore, the project would neither conflict with water supply planning undertaken by the applicable water district nor create a demand that would exceed existing water supply entitlements. Consequently, no significant unmitigated impacts to the regional water supply would occur with the project.

## CUMULATIVE IMPACTS

The proposed project, in conjunction with the 36 related projects (see **Table III-3**, Environmental Setting), would have a cumulative impact on water system capacities as the combined projects would result in an overall increase in water usage. Using the City’s standard sewer generation rates, and assuming a 20 percent increase above standard sewer generation rates to account for estimated irrigation rates, cumulative development would demand approximately 575,814 gallons/day or about 645 acre-feet/year. However, as indicated earlier in this chapter and in

**Tables IV.F.2-1 and IV.F.2-2**, water supplies are considered adequate over a 20-year planning horizon in single dry year, multiple dry year and average years to serve projected development increases.

While the proposed project would not result in a project specific significant impact to existing water system facilities or available capacities, the overall increase in water usage through continued development of the area would impact existing capacities. It is assumed that this impact would be minimized since other known development projects will be required to employ water conservation measures that are similar to those proposed on this project as needed to meet targeted City conservation and reduction goals.

It is noted that there may be periods when local and regional plans to curtail water usage are implemented to offset reduced supplies during shortage periods. However, these conservation programs in addition to plans and policies at the regional and local level, in addition to development of additional diversified supplies are part of the evolving strategy to continue meeting increasing water demands in the future. Provided that all new developments implement conservation, cumulative impacts to water service would be less than significant.