IV. Environmental Impact Analysis

K.1 Utilities—Water

1. Introduction

This section of the Draft EIR analyzes the Proposed Project's potential impacts on water supply and the water infrastructure system. The analysis describes regional water supplies and existing water infrastructure serving the Project Site, estimates the water demand associated with the Proposed Project, and assesses whether there is sufficient water supply and infrastructure capacity to meet that demand. The analysis of water supply is based on the *Water Supply Assessment for the Convention and Event Center Project* (the "Water Supply Assessment") prepared by the Los Angeles Department of Water and Power (LADWP), Water Resources Division and approved on December 15, 2011 (see Appendix V of this Draft EIR). The analysis of water infrastructure is based on the *Convention and Event Center Project Water System Technical Report* prepared by KPFF Consulting Engineers and dated March 2012 (see Appendix W of this Draft EIR).

2. Environmental Setting

a. Regulatory Framework

There are numerous state, regional and local plans and regulations governing water supply that are relevant to and would be implemented by the Proposed Project. These regulations are provided in Appendix G of this Draft EIR. As discussed therein, at the state level, relevant regulations include SB 610 (California Water Code Section 10910 et seq), the California Urban Water Management Act (California Water Code Sections 10610–10656), and water conservation features contained in the California Plumbing Code (Title 24, Part 5 of the California Code of Regulations).

At the regional level, plans that are relevant to water supply include Metropolitan Water District's (MWD) Regional Urban Water Management Plan, Integrated Resources Plan, Water Surplus and Drought Management Plan and Five-Year Supply Plan. At the local level, primary plans and regulations pertaining to water supply that are relevant to the Proposed Project include LADWP's 2010 Urban Water Management Plan (UWMP), LADWP's Securing L.A.'s Water Supply Plan, and the Los Angeles Municipal Code (LAMC), which includes numerous regulations pertaining to water conservation and water supply shortages.

b. Existing Conditions

(1) Water Supply

LADWP is responsible for providing water within the City of Los Angeles limits and ensuring that the water quality meets applicable California health standards for drinking water. As the Project Site is located within the City, LADWP is the water provider for the Project Site. Water is supplied to the City from four primary sources: the Los Angeles Aqueducts (LAA), local groundwater, MWD, and recycled water. As shown in Table IV.K.1-1 on page IV.K.1-3, in 2010, LADWP had an available water supply of 534,478 acre-feet (AF), of which approximately 47 percent was from the LAA, approximately 13 percent from local groundwater, approximately 39 percent from the MWD, and approximately 1.3 percent from recycled water. These water sources are described in further detail below.

(a) Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via the LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrological conditions. In recent years, LAA supplies have been less than the historical average due to environmental restoration obligations in Mono and Inyo Counties.[1]

The City holds water rights in the Eastern Sierra Nevada where the LAA water supplies originate. These supplies originate from both streams and from groundwater. In 1905, the City approved a bond measure for the purchase of land and water rights in the Owens River Valley. By 1913, the First LAA[2] began its deliveries of water to the City primarily from surface water diversions from the Owens River and its tributaries. Historically, these supplies were augmented from time to time by groundwater extractions from beneath the lands that the City had purchased in the Owens Valley.

In 1940, the First LAA was extended north to deliver Mono Basin water to the City pursuant to water rights permits and licenses granted by the State Water Resources

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1 *Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.*

2 *The First LAA spanned an estimated 223 miles in length originating at the Owens Valley and exported water from the Owens River and Mono Basin to Los Angeles.*

Table IV.K.1-1
Los Angeles Department of Water and Power 2001–2010 Water Supply

Year	Los Angeles Aqueducts	Local Groundwater	MWD	Recycled Water	Transfer, Spread, Spills, and Storage[a]	Total
2001	266,480	80,241	302,594	1,675	-1,994	**652,983**
2002	179,237	85,153	401,303	1,944	-1,405	**669,042**
2003	251,340	86,341	317,774	1,759	2,528	**654,687**
2004	203,190	75,696	392,603	1,774	-2,958	**676,221**
2005	376,394	57,623	185,002	1,401	3,140	**616,470**
2006	380,235	67,299	189,975	3,893	-1,336	**642,738**
2007	127,392	88,041	438,344	3,595	1,044	**656,327**
2008	148,407	64,604	430,959	7,048	1,664	**649,354**
2009	137,261	66,998	357,005	7,570	3,052	**565,782**
2010	251,126	68,346	208,264	6,900	-938	**534,478**

Units are in acre-feet (AF).

[a] *A negative number does not represent a loss. Rather, the negative number indicates the amount of water that has been taken or stored into the reservoir system. A positive number indicates spills from the reservoir system.*

Source: Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.

Control Board (SWRCB). In 1970, the Second LAA[3] was completed, increasing total delivery capacity of the LAA system to approximately 561,000 AF per year. The Second LAA was to be filled by completing the Mono Basin diversions originally authorized in 1940, by a more effective use of water for agricultural purposes on City-owned lands in the Owens Valley and Mono Basin and by increased groundwater from pumping the City's lands in the Owens Valley.

In 1972, Inyo County filed a CEQA lawsuit challenging the City's groundwater pumping program for the Owens Valley. The lawsuit ended in 1997, with the County of Inyo and the City entering into a long-term water agreement for the management of groundwater in the Owens Valley. That water agreement, entered as a judgment of the Superior Court in the County of Inyo outlines the management of the City's Owens Valley

[3] *The Second LAA spanned an estimated 137 miles beginning at the Haiwee Reservoir. This second aqueduct added an additional 50 percent capacity to the LAA system.*

groundwater resources. As a result of this water agreement and the subsequent Memorandum of Understanding, LADWP has dedicated 37,000 AF of water annually for enhancement and mitigation projects throughout Owens Valley, which includes the rewatering of 62 miles of the Lower Owens River. LADWP also provides approximately 80,000 AF of water annually for other uses in the Owens Valley such as irrigation, town water supplies, stockwater, wildlife and recreational purposes.

In September 1994, the SWRCB issued Decision 1631, which placed conditions on LADWP's water exports from Mono Basin. LADWP currently exports approximately 16,000 AF per year from the Mono Basin. LADWP has implemented extensive restoration and monitoring programs in Mono Basin to increase the level of Mono Lake and to improve stream conditions, fisheries, and waterfowl habitats. With reduced diversions from the Mono Basin and favorable hydrologic conditions, Mono Lake's elevation has risen over time. Once the elevation of Mono Basin reaches 6,391 feet above mean sea level, a moderate increase in water exports from the Mono Basin will be permitted pursuant to Decision 1631.

In the last decade, environmental considerations have required that the City reallocate approximately one-half of the LAA water supply to environmental mitigation and enhancement projects. Specifically, in 2010, approximately 205,800 AF of water supplies for environmental mitigation and enhancement in the Owens Valley and Mono Basin regions were used, which is in addition to the almost 107,300 AF per year supplied for agricultural, stockwater, and Native American Reservations.[4] Additionally, in July 1998, LADWP and the Great Basin Unified Air Pollution Control District entered into a Memorandum of Agreement to mitigate dust emissions from Owens Lake. As of December 31, 2008, LADWP mitigated dust emissions from 29.8 square miles of Owens Lake, and as of April 1, 2010, LADWP mitigated an additional 12.7 square miles. Upon completion of this latest phase, LADWP has mitigated dust emissions from 39.5 square miles of Owens Lake requiring approximately 95,000 AF of water annually to sustain the dust mitigation program.

As indicated in Table IV.K.1-1 on page IV.K.1-3, approximately 251,126 AF of LADWP's water supplies were from the LAA in 2010. Average deliveries from the LAA system from 2006 through 2010 were approximately 208,884 AF of water annually. LADWP projects that the average annual long-term LAA delivery over the next 25 years is

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[4] *Los Angeles Department of Water and Power, 2010 Urban Water Management Plan.*

expected to be approximately 254,000 AF per year and gradually decline to 244,000 AF per year due to climate change impacts.[5]

(b) Groundwater

LADWP traditionally extracts groundwater from wellfields throughout the Owens Valley and local groundwater basins. Groundwater from the Owens Valley is currently accounted for in the LAA discussion and data above. Thus, the discussion of groundwater sources below focuses on the San Fernando, Sylmar and Central Basins.

The San Fernando and Sylmar Basins are subject to the judgment in *City of San Fernando vs. City of Los Angeles*. Per that judgment, pumping must be reported to the court-appointed Upper Los Angeles River Area (ULARA) Watermaster. The Central Basin is also subject to court judgments. Pumping is reported to the California Department of Water Resources (DWR), which acts as Watermaster.

The San Fernando Basin, which consists of 112,000 acres of land and comprises 91.2 percent of the ULARA, is the largest of four basins within the ULARA. LADWP has accumulated nearly 456,146 AF of stored water credits in the San Fernando Basin as of October 2010 (126,469 AF of stored water credits that are available to be pumped now and 329,677 AF that are held in reserve).[6] This water can be withdrawn from the basin during normal and dry years or in an emergency, in addition to LADWP's approximately 87,000 AF annual entitlement in the basin.

Sylmar Basin, located in the northern part of the ULARA, consists of 5,600 acres of land and comprises 4.6 percent of the ULARA. LADWP currently has an annual entitlement of 3,405 AF from the Sylmar Basin. In addition, LADWP has adjudicated rights to extract groundwater from the Central Basin. Annual entitlement to the Central Basin is 15,000 AF.

As shown in Table IV.K.1-2 on page IV.K.1-6, from the 2009–2010 water year (October through September), LADWP extracted 59,958 AF from the San Fernando Basin, 2,544 AF from the Sylmar Basin, and 11,135 AF from the Central Basin.[7]

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5 *Ibid.*

6 *Los Angeles Department of Water, Water Supply Assessment for the Convention and Event Center Project, December 2011.*

7 *Ibid.*

Table IV.K.1-2
Local Groundwater Basin Supply (acre-feet)

Year	San Fernando	Sylmar	Central
2005–2006	38,042	2,175	13,725
2006–2007	76,251	3,919	13,609
2007–2008	50,009	2,997	10,754
2008–2009	52,896	868	11,817
2009–2010	59,958	2,544	11,135

Groundwater extractions for all basins represent extractions during water year (October through September).

Source: Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.

LADWP plans to continue production from its groundwater basins in the coming years to offset reductions in imported water supplies. Extraction from the basins will, however, be limited by water quality and overdraft protection. Both LADWP and DWR have programs in place to monitor wells to prevent overdrafting. LADWP's groundwater pumping practice is based on a "safe yield" operation. The objective, over a period of years, is to extract an amount of groundwater equal to the native and imported water that recharges the basin.

(c) Metropolitan Water District of Southern California

MWD was created in 1928 by vote of the electorates of eleven Southern California cities under authority of the Metropolitan Water District Act. MWD imports a portion of its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct. MWD is the largest water wholesaler for domestic and municipal uses in southern California. MWD is comprised of 26 member public agencies, including 14 cities, 11 municipal water districts, and one county water authority which collectively serve the residents and businesses of more than 300 cities and numerous unincorporated communities. All 26 member agencies have preferential rights to purchase water from MWD. As one of the 26 member agencies of MWD, LADWP purchases water from MWD to supplement LADWP water supplies from the LAA and local groundwater. As of June 30, 2006, LADWP had a preferential right to purchase 21.16 percent of MWD's total water supply.

LADWP has worked with MWD in the development of the MWD Water Supply Allocation Plan, which was adopted by the MWD Board on February 12, 2008. During a

water supply shortage, LADWP is allocated a calculated amount of MWD water based on an allocation formula provided in this plan. LADWP supported the adoption of this plan and intends to work within the plan to acquire its drought supplies from MWD in the future. As indicated in Table IV.K.1-1, in 2010, LADWP received approximately 208,264 AF of water from MWD. LADWP will continue to rely on MWD to meet its current and future supplemental water needs.

In response to the 2009 regulatory restrictions on water supplies from Northern California, the MWD Board announced on April 14, 2009, that supply deliveries to the member agencies would be reduced by 10 percent. The reduced supply allocation was to be effective from July 1, 2009, through June 30, 2010. However, in April 2010, the MWD Board approved an extension of the reduced supply allocation through June 30, 2011, primarily to restore the storage balances in MWD's groundwater and surface storage facilities. On March 31, 2011, California Governor Jerry Brown declared an end to the statewide drought emergency. MWD's Board subsequently voted to end implementation of the 2010/2011 water supply allocation and to not implement a water supply allocation for 2011/2012. These actions restored full imported water deliveries to member agencies without risk of allocation penalties effective April 2011.

Summaries of MWD's individual supplies, along with the challenges facing each supply, are presented below. Additionally, described below are specific actions that MWD is taking to meet each of the challenges facing its water supplies. Over the past several decades, MWD has demonstrated that it can adapt to continuous change and address uncertainties in supply by developing a diverse portfolio, setting supply targets, monitoring its progress on a regular basis, and adapting its strategy to meet its targets.

(i) MWD Water Supply

The Colorado River

The Colorado River was MWD's original source of water after MWD's establishment in 1928. MWD has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior (Section 5 of the Federal Boulder Canyon Project Act). Water from the Colorado River or its tributaries is also available to other users in California as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming, resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 agreement, Mexico has an allotment of 1.5 million AF of Colorado River water annually, except in the event of extraordinary drought or serious accident to the delivery system in the United States when the water allotted to Mexico would be curtailed. Mexico also can schedule delivery of additional 200,000 AF of Colorado River water per year if

water is available in excess of the requirements in the United States and the 1.5 million AF allotted to Mexico.

The Colorado River Aqueduct, which is owned and operated by MWD, transports water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in Riverside County. From there, MWD pumps the water into its feeder pipeline distribution system for delivery to its member agencies throughout Southern California. After deducting for conveyance losses and considering maintenance requirements, up to 1.25 million AF of water a year may be conveyed through the Colorado River Aqueduct to MWD's member agencies, subject to availability of Colorado River water for delivery to MWD.

California is apportioned the use of 4.4 million AF 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 and Nevada when such supplies have been requested for use in California. Under the 1931 priority system that has formed the basis for the distribution of Colorado River water made available to California, MWD was allotted 550,000 AF per year under a fourth priority right and 662,000 AF per year under a fifth priority right. Palo Verde Irrigation District (PVID), the Yuma Project, Imperial Irrigation District (IID) and the Coachella Valley Water District (CVWD) are the agricultural entities holding the first three priorities to the use of no more than 3.85 million AF under the water delivery contracts.

Until 2003, MWD had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and apportioned but unused water. However, Arizona and Nevada increased their water use from the Colorado River, leaving no unused apportionment available for California since 2002. In addition, a severe drought in the Colorado River Basin has reduced storage in system reservoirs. Prior to 2003, MWD could divert 1.2 million AF in any year, but since that time MWD's deliveries of Colorado River water varied from a low of 633,000 AF in 2006 to a high of approximately 1,105,232 AF in 2009. Average annual net deliveries for 2003 through 2010 were approximately 849,500 AF, with annual volumes dependent on availability of unused higher priority agricultural water and increasing transfer of conserved water.[8]

As described in detail in the Water Supply Assessment for the Proposed Project provided in Appendix V of this Draft EIR, MWD has taken steps to augment its share of

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[8] *Ibid.*

Colorado River water supplies by entering into agreements with other agencies that have rights to use such water. A summary of several of these agreements is provided below:

- In 1988, MWD entered into a water conservation agreement with IID for water conservation projects that currently conserve 105,000 AF of water per year. In 2010, the conserved water augmented the amount of water available to MWD by 97,000 AF.

- In 1992, MWD entered into an agreement with the Central Arizona Water Conservation District to create 80,909 AF of long-term storage credits that may be recovered by Central Arizona Water Conservation District for MWD. All 80,909 AF were recovered and delivered to MWD between 2007 and 2010.

- In August 2004, MWD entered into an agreement with the PVID for a Land Management, Crop Rotation and Water Supply Program that provides up to 133,000 AF of water available to MWD in certain years. Fallowing of approximately 20,000 acres of land began on January 1, 2005. In March 2009, MWD and the PVID entered into a supplemental fallowing program within the PVID that provided for the fallowing of additional acreage in 2009 and 2010. In 2005, 2006, 2007, 2008, 2009, and 2010, approximately 108,700 AF, 105,000 AF, 72,300 AF, 94,300 AF, 144,300 AF, and 148,600 AF of water, respectively, were saved and made available to MWD. In 2009 and 2010, respectively, 24,100 AF and 32,300 AF of water were saved and made available to the MWD under the supplemental program. The fallowing program was estimated to have saved approximately 125,300 AF of water in 2011.

- In May 2008, MWD authorized an expenditure of $28.7 million with the Central Arizona Water Conservation District and Southern Nevada Water Authority for funding a new 8,000 AF off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County (officially renamed the Warren H. Brock Reservoir) which is expected to conserve about 70,000 AF of water per year. The reservoir was completed in the summer of 2010 with commissioning in September 2010. The first filling and drainage test began in September 2010 and was completed by November 2010.[9] In return for its funding, MWD received 100,000 AF of water stored in Lake Mead, with annual delivery of up to 40,000 AF of water in any one year.

- In September 2009, MWD authorized participation with Southern Nevada Water Authority, the Colorado River Commission of Nevada, the Central Arizona Water

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[9] *U.S. Department of the Interior Bureau of Reclamation. Reclamation, Managing Water in the West, Proposed Final Annual Operating Plan (AOP) for Colorado River Reservoirs 2012, www.usbr.gov/lc/riverops.html; accessed November 2, 2011.*

Conservation District and the U.S. Bureau of Reclamation in the pilot operation of the Yuma Desalting Plant which began in May 2010. The pilot operation of the Yuma Desalting Plant concluded in March 2011 and recycled approximately 30,000 AF of irrigation return flow water which was included in Colorado River water deliveries to Mexico.[10]

Management of Colorado River Supply

With Arizona's and Nevada's increasing use of their respective apportionments and the uncertainty of continued Colorado River surpluses, in 1997, the Colorado River Board of California, in consultation with MWD, LADWP, and other water agencies embarked on the development of a plan for reducing California's use of Colorado River water to its basic apportionment of 4.4 million AF when use of that basic allotment is necessary (California Plan). In 1999, the IID, CVWD, MWD, and the state agreed to a set of key terms aimed at managing California's Colorado River supply. These key terms were incorporated into the Colorado River Board's May 2000 California Plan. Agreements and guidelines that continue to affect the management of water supplies from the Colorado River are summarized below.

Quantification Settlement Agreement: Many of the core elements of the California Plan are being put into effect under the October 2003 Quantification Settlement Agreement (QSA) executed by the IID, CVWD, and MWD. The QSA establishes Colorado River water use limits for the IID, CVWD, and MWD; provides for specific acquisitions of conserved water and water supply arrangements for up to 75 years; and restores the opportunity for MWD to receive any special surplus water under the "Interim Surplus Guidelines" (described below). The QSA also allows MWD to enter into other cooperative Colorado River supply programs. Specific programs undertaken under the QSA include lining portions of the All-American and Coachella Canals, which are projected to conserve 96,000 AF annually. With full implementation of the programs identified in the QSA, MWD expects to be able to annually divert 850,000 AF of Colorado River water plus water from other water augmentation programs it develops, including the previously described Land Management, Crop Rotation and Water Supply Program executed between MWD and PVID, which provides up to approximately 130,000 AF of water per year.

Sale of Water by the Imperial Irrigation District to San Diego County Water Authority: On April 29, 1998, the San Diego County Water Authority and IID executed a Transfer

[10] *U.S. Department of the Interior Bureau of Reclamation. Reclamation Completes Successful Pilot Run of the Yuma Desalting Plant, www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=35743; accessed November 2, 2011.*

Agreement for SDCWA's purchase from IID of Colorado River water delivery to IID. Under the Transfer Agreement, conserved water from the IID is delivered to the San Diego County Water Authority through existing facilities owned by MWD. MWD and San Diego County Water Authority entered into an exchange contract that provides for conserved Colorado River water acquired by the San Diego County Water Authority from the IID and water conserved from lining the All-American and Coachella Canals to be made available to MWD for diversion at Lake Havasu. By exchange from the sources of water available to MWD, an equal volume of water is delivered to San Diego County Water Authority through MWD's distribution system.

Interim Surplus Guidelines: In January 2001, the Secretary of the Interior adopted the Interim Surplus Guidelines for use through 2016 in determining if there is surplus available for use in California, Arizona, and Nevada. The purpose of these guidelines is to provide a greater degree of predictability with respect to the availability and quantity of surplus water through 2016. The guidelines were later extended through 2026 and contain a series of benchmarks for reductions in agricultural use of Colorado River water within California by set dates.

Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead: In November, 2007, the U.S. Bureau of Reclamation issued a Final Environmental Impact Statement regarding new federal guidelines concerning the operation of the Colorado system of reservoirs. These guidelines provide water release criteria from Lake Powell and water storage and water release criteria from Lake Mead during shortage and surplus conditions in the Lower Basin, provide a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead and extend the Interim Surplus Guidelines through 2026.

Intentionally Created Surplus Program: To address the receding lake levels in Lake Mead, MWD and the U.S. Bureau of Reclamation executed an agreement on May 26, 2006, to create the "Intentionally Created Surplus" program that allowed MWD to leave conserved water in Lake Mead that MWD would otherwise use in 2006 and 2007. Only "intentionally-created surplus" water (water that has been conserved through extraordinary conservation measure, such as land fallowing) was eligible for storage in Lake Mead under this program. The Secretary of the Interior will deliver intentionally created surplus water to MWD in accordance with the terms of a December 31, 2007, delivery agreement between the U.S. and MWD.

Challenges to Colorado River Supply

Challenges facing MWD's Colorado River supply include risk of future droughts in the Colorado River Basin, pending litigation, including litigation of the QSA, and environmental considerations.

Specifically, under the Interim Surplus Guidelines, MWD initially expected to divert up to 1.25 million AF of Colorado River water annually under foreseeable runoff and reservoir storage from 2004 through 2016. However, from 2000 to 2004, snow pack and runoff in the Colorado River Basin were well below average and although runoff was slightly above average in 2005 and 2008, average annual runoff from 2000 through 2010 was 69 percent of normal, representing the driest eleven-year period on record. More recently, precipitation over the Colorado River Basin from October 2010 through April 2011 was significantly above normal with upper Colorado River Basin snowpack measured in May 2011 at 150 percent of normal and runoff from April–July 2011 measured at 163 percent of normal.

Litigation has also been filed that presents challenges regarding water supplies associated with the Colorado River. For example, on November 5, 2003, IID filed a validation action in Imperial County Superior Court seeking judicial determination that 13 agreements associated with the IID/SDCWA water transfer and the QSA are valid, legal, and binding. Other lawsuits also were filed challenging the execution, approval and subsequent implementation of the QSA on various grounds. One of the key issues in the first phase of the QSA-related cases was the constitutionality of the QSA Joint Powers Agreement, pursuant to which IID, CVWD, and SDCWA agreed to commit $163 million toward certain mitigation and restoration costs associated with implementation of the QSA and related agreements, and the state agreed to be responsible for any costs exceeding this amount. A final judgment in this case was issued on February 11, 2010, in which the court held that the state's commitment was unconditional in nature and, as such, violated the state's debt limitation under the California Constitution.

The court also invalidated eleven other agreements, including the QSA, because they were inextricably interrelated with the QSA Joint Powers Agreement. Lastly, the court ruled that all other claims raised by the parties, including CEQA claims related to the QSA Programmatic EIR and the IID Transfer Project EIR, were moot. MWD, IID, CVWD, SDCWA, the state and others have appealed various aspects of the court's ruling, which has been stayed pending outcome of the appeals. If the ruling stands, it could delay the implementation of programs authorized under the QSA or result in increased costs or other

adverse impacts. The impact, if any, that the ruling might have on MWD's water supplies cannot be adequately determined at this time.[11]

On January 28, 2010, MWD was served with a federal complaint filed by the County of Imperial and the Imperial County Air Pollution Control District alleging that execution and implementation of three QSA-related agreements violated the National Environmental Policy Act and federal Clean Air Act. The complaint named the Department of Interior, Secretary of Interior, Bureau of Reclamation and Commissioner of Reclamation as defendants, and MWD, CVWD, IID, and SDCWA as real parties in interest. On March 29, 2010, MWD and the other defendants and real parties filed separate answers to the complaint. On August 23, 2010, MWD and the other real parties intervened as additional defendants. On September 9, 2010, the administrative record was filed with the court. A status conference was scheduled for October 21, 2010, at which time it was anticipated that a briefing schedule would be set. Based on MWD's most recent summary regarding the Colorado River QSA Coordinated Cases, a motion on supplementing the record was scheduled to be heard by the court on March 4, 2011.[12] However, on March 14, 2011, the case was transferred to a new judge and all existing filing and hearing dates were subsequently vacated. No schedule has since been issued by the court.[13] The impact, if any, that the litigation might have on MWD's water supplies cannot be adequately determined at this time.

In addition, in 2003, the Navajo Nation filed litigation against the Department of the Interior, specifically the Bureau of Reclamation and the Bureau of Indian Affairs, alleging that the Bureau of Reclamation failed to determine the extent and quantity of the water rights of the Navajo Nation in the Colorado River and that the Bureau of Indian Affairs failed to otherwise protect the interest of the Navajo Nation. The complaint challenged the adequacy of the environmental review for the Interim Surplus Guidelines and sought to prohibit the Department of the Interior from allocating any surplus water until a determination of the rights of the Navajo Nation was made. In October 2004, the court granted the motion to intervene and stayed the litigation to allow negotiations among the Navajo Nation, federal defendants, Central Arizona Water Conservation District, State of Arizona, and Arizona Department of Water Resources. The Navajo Nation approved the

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[11] *Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.*

[12] *Metropolitan Water District of Southern California, Office of the General Counsel. Monthly Activity Report—January 2011, http://edmsidm.mwdh2o.com/idmweb/cache/MWD%20EDMS/003721075-1.pdf; accessed November 2, 2011.*

[13] *Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.*

terms of a proposed settlement in 2010. Under its terms, the Navajo Nation would have specified rights to water from the Colorado River, the Little Colorado River and groundwater basins under the reservation. All Colorado River water would come from Arizona's apportionment. There would be no financial or water resource impact on MWD. The proposed agreement requires approval of all the affected bodies and federal implementation legislation. The litigation stay has been extended until February 15, 2013, to permit the parties to finalize the settlement. The adverse impact on MWD or its Colorado River supplies, without finalization of the settlement, cannot be adequately determined at this time.

Federal and state environmental laws protecting fish species and other wildlife species have the potential to affect Colorado River operations. A number of species that are either endangered or threatened are present in the Lower Colorado River. However, the Lower Colorado River Multi-Species Conservation Program allows MWD to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species. The Lower Colorado River Multi-Species Conservation Program also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by MWD and other agencies.

Additionally, in December 2007, the Grand Canyon Trust filed litigation against the Bureau of Reclamation alleging that the operation of the Glen Canyon Dam on the Colorado River does not comply with requirements of the National Environmental Policy Act and the federal Endangered Species Act (ESA). On May 27, 2009, the court ordered the Bureau of Reclamation to reconsider how the dam flows may harm the endangered humpback chub and razorback sucker fish and develop a new operating plan. Grand Canyon Trust filed its third supplemental complaint challenging the Bureau of Reclamation's latest schedule of releases from Lake Powell on September 23, 2010. On March 29, 2011, the court issued a final ruling upholding the Bureau of Reclamation's prior decisions for Glen Canyon Dam operations. Other environmental concerns that have been raised include the discovery of quagga mussels in Lake Mead. However, MWD has been implementing control strategies for mussels in MWD's lakes and reservoirs.

State Water Project

The SWP is a water storage and delivery system of reservoirs, aqueducts, power plants, and pumping plants. The main purpose of the SWP is to divert and store surplus water during wet periods and distribute it to areas throughout the state. Other purposes of the SWP include flood control, power generation, recreation, fish and wildlife protection, and water quality management in the Sacramento–San Joaquin River Delta (Delta).

The SWP is owned by the State of California and operated by the DWR. SWP transports Feather River water stored in and released from Oroville Dam and unregulated flows diverted directly from the San Francisco Bay/Sacramento–San Joaquin River Delta south via the California Aqueduct to four delivery points near the northern and eastern boundaries of MWD's service area. The total length of the California Aqueduct is approximately 444 miles.

MWD signed a contract (the State Water Contract) with the DWR in 1960. MWD is one of the 29 agencies that have long-term contracts for water service from the DWR, and is the largest agency in terms of the number of people it serves (almost 19 million), the share of the SWP that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to the DWR by agencies with state water contracts (approximately 58 percent in 2011). MWD's State Water Contract is set to expire in 2035 and MWD presently intends to exercise an option to continue service to at least 2052.[14]

The availability of SWP water supply is analyzed by DWR in terms of "Table A" and Article 21 water deliveries. Table A water deliveries represent the schedule of the maximum amount of water that water contractors to the DWR may receive annually from the SWP. There are 29 water contractors who have signed long term contracts with the DWR. Table A deliveries are not guarantees of annual delivery amounts but are used to allocate individual contractors' portion of the delivery amounts available. Article 21 deliveries refer to Table A deliveries with additional water supplies received only under the following conditions: the water is available only if it does not interfere with Table A allocations and SWP operations; the water is available only when there is excess water in the Delta; the water is available only when conveyance capacity is not being used for SWP purposes or scheduled SWP deliveries; and the water must be stored by the contractor and not in the SWP system.

The SWP, under a 100 percent allocation, provides MWD 1,911,500 AF of water. Water received from the SWP by MWD from 2002 through 2010, including water from the water transfer, groundwater banking, and exchange programs varied from a low of 908,000 AF to a high of 1,800,000 AF. For calendar year 2010, DWR's initial allocation estimate to SWP contractors was set at five percent of contracted amounts. The estimate was adjusted upwards during the winter and spring and on June 22, 2010, DWR adjusted its allocation to 50 percent of contracted amounts, reflecting late spring storms, a return to normal precipitation and reservoir levels and an above normal Sierra snowpack. For MWD,

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[14] *Ibid.*

the revised allocation provided 955,750 AF, or 50 percent of its 1,911,500 AF contractual amount. As a result of increased SWP supplies, acquisitions of additional water through transfers and exchanges, and reduced demands in the spring and summer of 2010, MWD stored approximately 175,000 AF of SWP water in its Central Valley groundwater storage programs in 2010.[15]

More recently, on November 18, 2011, the DWR announced that its 2012 SWP initial allocation would be 60 percent of total contracted water deliveries to the SWP contractors.[16] Sixty percent of 1,911,500 AF per year, which is MWD's contracted water delivery amount, is 1,146,900 AF per year. The allocation reflects the recent precipitation conditions, existing storage in SWP conservation reservoirs, SWP operational constraints such as the conditions of the recent biological opinions for delta smelt and salmonids and the longfin smelt incidental take permit, as discussed below, and 2012 projected contractor demands.

Challenges to SWP Supply

The listing of several fish species as threatened or endangered under the federal and/or California ESA have impacted SWP operations and limited the flexibility of the SWP. Currently, five species (the winter-run and spring run Chinook salmon, Delta smelt, North American green sturgeon and Central Valley steelhead) are listed under the federal and state ESAs. In addition, on June 25, 2009, the California Fish and Game Commission declared the longfin smelt a threatened species under the California ESA. The United States Fish and Wildlife Service also announced on April 9, 2009, that the Bay-Delta's population of longfin smelt does not qualify as a distinct population segment and cannot be listed under the federal ESA.

In 2004 and 2005, the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) issued biological opinions and incidental take statements governing the coordinated operations of the SWP and federal Central Valley Project with respect to the Delta smelt, the winter-run and spring-run Chinook salmon and the Central Valley steelhead. In July 2006, the Bureau of Reclamation reinitiated consultations with the USFWS and NMFS with respect to the 2004 and 2005 biological opinions (with the addition of the North American green sturgeon, which was listed in April 2006), following the challenges to the biological opinions and incidental take statements described below.

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[15] *Ibid.*

[16] *California Department of Water Resources. State Water Project, Water Deliveries, www.water.ca.gov/swpao/deliveries.cfm; accessed February 17, 2012.*

Litigation filed by several environmental interest groups (*Natural Resources Defense Council (NRDC) et al. v. Kempthorne, et al; and Pacific Coast Federation of Fishermen's Associations v. Gutierrez*) in the United States District Court for the Eastern District of California alleged that the 2004 and 2005 biological opinions and incidental take statements inadequately analyzed impacts on listed species under the federal ESA. On May 25, 2007, federal District Judge Wanger issued a decision on summary judgment in *NRDC v. Kempthorne*, finding the USFWS biological opinion for Delta smelt to be invalid. The USFWS released a new biological opinion on the impacts of the SWP and Central Valley Project on Delta smelt on December 15, 2008. MWD, the San Luis & Delta Mendota Water Authority, Westlands Water District, Kern County Water Agency, Coalition for a Sustainable Delta and State Water Contractors, the Family Farm Alliance, and the Pacific Legal Foundation on behalf of several owners of small farms in California's Central Valley filed separate lawsuits in federal district court challenging the December 2008 biological opinion, which the federal court consolidated under the caption *Delta Smelt Consolidated Cases*. On December 14, 2010, Judge Wanger issued a decision on summary judgment finding that there were major scientific and legal flaws in the Delta smelt biological opinion and remanded the biological opinion to the USFWS for reconsideration. On May 4, 2011, Judge Wanger issued a decision directing the USFWS to complete a new draft biological opinion by October 1, 2011, and to complete a final biological opinion by December 1, 2013. On December 14, 2011, the USFWS released a new draft biological opinion on the effects of the SWP and the Central Valley Project on Delta smelt.[17]

On April 16, 2008, in *Pacific Coast Federation of Fishermen's Associations v. Guitierrez*, the court invalidated the 2004 NMFS's biological opinion for the salmon and other fish species that spawn in the rivers flowing into the Bay-Delta. The NMFS released its new biological opinion regarding salmon on June 4, 2009. Six lawsuits were filed challenging the 2009 salmon biological opinion. The court has consolidated the cases under the caption *Consolidated Salmon Cases*. The court deferred any ruling on the preliminary injunction to allow the parties to negotiate a potential compromise. On September 20, 2011, Judge Wanger found that the salmon Biological Opinion and its Reasonable and Prudent Alternative were arbitrary and capricious, and must be remanded to the National Marine Fisheries Service to be redone. It is unknown whether the Federal

[17] *Metropolitan Water District of Southern California, Office of the General Counsel. Monthly Activity Report—December 2011, www.mwdh2o.com/mwdh2o/pages/legal/legal01.html; accessed February 22, 2012.*

Defendants and Environmental Intervenors will appeal. The schedule for completing a new salmon Biological Opinion also has not yet been set.[18]

On November 13, 2009, the Center for Biological Diversity filed separate lawsuits challenging the USFWS' failure to respond to a petition to change the Delta smelt's federal status from threatened to endangered and the USFWS' denial of federal listing for the longfin smelt. The Delta smelt and longfin smelt cases were filed in the U.S. District Court for the Eastern and Northern Districts of California, respectively. On April 2, 2010, the USFWS issued a finding that uplisting the Delta smelt was warranted but precluded by the need to devote resources to higher-priority matters. This warranted but precluded finding did not change the regulatory restrictions applicable to the Delta smelt. An agreement settling the longfin smelt litigation was approved on February 2, 2011. Under the agreement, the USFWS agreed to complete a rangewide status review of the longfin smelt and consider whether the Bay-Delta longfin smelt population, or any other longfin smelt population from California to Alaska, qualifies as a "distinct population" that warrants federal protection by September 30, 2011.[19] This schedule has since been updated and the USFWS is now expected to issue a determination by March 30, 2012.[20]

The impact on total SWP deliveries attributable to the Delta smelt and salmonid species biological opinions combined is estimated to be one million AF in an average year, reducing SWP deliveries from approximately 3.3 million AF to approximately 2.3 million AF for the year under average hydrology. Reduction to SWP total deliveries from the biological opinions are estimated to range from 0.3 million AF during critically dry years to 1.3 million AF in above normal water years. On August 24, 2010, DWR reported that approximately 800,000 AF of water was lost from the SWP for calendar year 2010 as a result of pumping restrictions, of which about 370,000 AF would have been made available to MWD.

In addition to the litigation under the federal ESA, other environmental groups sued DWR on October 4, 2006 in the Superior Court of the State of California for Alameda County alleging that the DWR was "taking" listed species without authorization under the California ESA (*Watershed Enforcers v. California Department of Water Resources*). The

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[18] *Metropolitan Water District of Southern California, Office of the General Counsel. Monthly Activity Report—September 2011, www.mwdh2o.com/mwdh2o/pages/legal/legal01.html; accessed November 3, 2011.*

[19] *Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, Appendix G, Metropolitan Water District of Southern California.*

[20] *U.S. Fish and Wildlife Service Bay-Delta Fish & Wildlife Office, Longfin Smelt, www.fws.gov/sfbaydelta/species/longfin_smelt.cfm; accessed February 22, 2012.*

litigation requested that the DWR be mandated to either cease operation of the SWP pumps in a manner that results in "taking" of listed species or obtain authorization for such "taking" under the California ESA. On April 18, 2007, the court determined that the DWR was illegally "taking" listed fish through operation of the SWP facilities and ordered the Department to "cease and desist from further operation" within 60 days until it obtains take authorization from the California Department of Fish and Game (CDFG).

DWR appealed the Alameda County Superior Court's order on May 7, 2007. This appeal stayed the order pending the outcome of the appeal. The Court of Appeal also stayed further processing of the appeal in 2009. This stay was intended to allow time for the DWR to obtain incidental take authorization under the California ESA before the Court of Appeal decides the appeal. DWR applied for incidental take authorization for the Delta smelt and salmon under the California ESA, based on the consistency of the federal biological opinions with California ESA requirements. The CDFG subsequently issued Consistency Determinations under the California ESA authorizing the incidental take of both Delta smelt and salmon. Based on having received Consistency Determinations that authorize incidental take under the California ESA, appellants DWR and State Water Contractors dismissed their appeals of the *Watershed Enforcers* decision. The State Water Contractors and Kern County Water Agency have filed suit in state court challenging the Consistency Determinations under the California ESA that have been issued for both Delta smelt and salmon. Those lawsuits challenging the Consistency Determinations are pending.

In addition, four SWP contractors located north of the SWP's Bay-Delta pumping plant filed litigation against DWR on July 17, 2008, (*Solano County Water Agency, et al. v. State of California Department of Water Resources*) asserting that since they are located in the "area of origin" of SWP water, they should not be subject to the shortage provisions of their SWP contracts and are entitled to receive their entire contract amount before any water is delivered to contractors south of the Bay-Delta. If the plaintiffs are successful in this litigation, SWP water available to MWD in a drought period could be reduced by approximately 25,000 AF each year of a multi-year drought or by as much as 40,000 AF in an exceedingly dry year. MWD and 12 other SWP contractors located south of the Bay-Delta filed motions to intervene in this litigation, which were granted on February 25, 2009. On September 22, 2010, the trial court heard arguments on the parties' cross-motions for summary judgment.[21] MWD legal staff, along with outside counsel, DWR personnel and representatives of other parties in this case, began settlement conferences presided over

[21] *Metropolitan Water District of Southern California, Office of the General Counsel. Monthly Activity Report—October 2010, www.mwdh2o.com/mwdh2o/pages/legal/legal01.html; accessed November 3, 2011.*

by Judge Robert Hight on May 26, 2011. As of September 2011, MWD legal staff, along with outside counsel, DWR personnel and representatives of other parties in this litigation continued to participate in additional mediation discussions. In addition, MWD and its fellow intervenors, the DWR and plaintiffs each met separately with Judge Robert Hight to review the status of the mediation.[22]

Other issues, such as the decline of some fisheries in the Bay-Delta and surrounding regions and certain operational actions in the Bay-Delta, may substantially reduce MWD's water supply from the Bay-Delta. SWP operational requirements may be further modified under new biological opinions for listed species under the federal ESA or by the CDFG's issuance of incidental take authorizations under the California ESA. MWD cannot predict the ultimate outcome of any of the litigation or regulatory processes but believes they could have a materially adverse impact on the operation of the SWP pumps, MWD's SWP supplies, and MWD's water reserves. Operational constraints will likely continue until a long-term solution to the problems in the Bay-Delta is identified and implemented.

Programs Addressing Challenges within the Delta

To address the environmental concerns within the Delta, several programs have been proposed and/or recently completed. These programs include the CALFED Bay-Delta Program, the Delta Vision Process, and the Bay-Delta Conservation Plan.

The CALFED Bay-Delta Program was a collaborative effort among 25 state and federal agencies that came together with a mission to improve California's water supply and the ecological health of the Bay-Delta watershed.[23] Implementation of the CALFED Bay-Delta Program resulted in an investment of $3 billion on a variety of projects and programs to begin addressing the Bay-Delta's water supply, water quality, ecosystem, and levee stability problems.

To guide future development of and governance for the CALFED Bay-Delta Program and identify a strategy for managing the Delta as a sustainable resource, in September 2006, former Governor Schwarzenegger established by Executive Order the Delta Vision process. The Delta Vision Process resulted in creation of a Delta Vision Blue Ribbon Task

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[22] *Metropolitan Water District of Southern California, Office of the General Counsel. Monthly Activity Report—August and September 2011, www.mwdh2o.com/mwdh2o/pages/legal/legal01.html; accessed November 3, 2011.*

[23] *Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.*

Force that issued its Delta Vision Strategic Plan on October 17, 2008, providing its recommendations for long-term sustainable management of the Bay-Delta. These recommendations included completing the Bay-Delta Conservation Plan (BDCP) and associated environmental assessments to permit ecosystem revitalization and water conveyance improvements, identifying and reducing stressors to the Bay-Delta ecosystem, strengthening levees, increasing emergency preparedness, continuing funding for the CALFED ecosystem restoration program, updating Bay-Delta regulatory flow and water quality standards to protect beneficial uses of water, and working with the State Legislature on a comprehensive water bond package to fund Bay-Delta infrastructure projects.

On November 4, 2009, the State Legislature authorized an $11.1 billion water bond measure that includes over $2 billion for Bay-Delta ecosystem restoration, as well as $3 billion for new water storage and additional funds for water recycling, drought relief, conservation, and watershed protection projects. The bond measure is subject to voter authorization and was scheduled to be included on the November 2010 ballot; however, in August 2010 the Legislature postponed the bond election to 2012.

Related legislation created a new oversight council for the Bay-Delta, the Delta Stewardship Council, and directs that the Bay-Delta be managed with dual goals of water supply reliability and ecosystem protection, sets a statewide conservation target for urban per capita water use of 20 percent reductions by 2020, provides funding for increased enforcement of illegal water diversions and establishes a statewide groundwater monitoring program. The Delta Stewardship Council, formed on February 3, 2010, is CALFED's successor governing agency and was directed to adopt and oversee implementation of a comprehensive management plan for the Bay-Delta by January 1, 2012. As of the writing of this report, a Final Delta Plan had not been adopted.[24]

The BDCP is being developed under the federal ESA and the California Natural Community Conservation Planning Act. When completed, the BDCP would provide the basis for the issuance of endangered species permits for the operation of the state and federal water projects. The plan would be implemented over the next 50 years.[25] The BDCP will identify and implement conservation strategies to improve the overall ecological health of the Delta; identify and implement ecologically friendly ways to move fresh water through and/or around the Delta; address toxic pollutants, invasive species, and impairments to water quality; and provide a framework to implement the plan over time. A

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[24] *Delta Stewardship Council. Delta Plan, http://deltacouncil.ca.gov/delta-plan; accessed February 28, 2012.*

[25] *Bay Delta Conservation Plan, About BDCP website, http://baydeltaconservationplan.com/BDCPPages/aboutBDCP.aspx; accessed August 22, 2011.*

draft Environmental Impact Report/Environmental Impact Statement evaluating the environmental impacts of the BDCP and a public draft of the BDCP is expected to be ready for public review and comment by early 2012.[26] MWD is one of the parties that are drafting the BDCP to provide state and federal ESA coverage for its SWP operations.

(ii) Additional MWD Actions to Address Supply

Water Transfer and Exchange Programs and Storage Capacity

To improve water supply reliability for the entire southern California region, MWD has also been pursuing voluntary water transfer and exchange programs with state, federal, public and private water districts and individuals. Programs include the Arvin-Edison/Metropolitan Water Management Program; the Semitropic/MWD Groundwater Storage and Exchange Program; the California Aqueduct Dry-Year Transfer Program; purchase, storage and exchange programs in the Sacramento and San Joaquin Valleys; and MWD/Coachella Desert Water Agency Exchange and Advance Delivery Agreement, and other agreements. These programs are described further in the Water Supply Assessment provided in Appendix V of this Draft EIR.

With these and other programs, MWD's storage capacity is approximately 5.54 million AF. In 2011, approximately 626,000 AF of stored water is emergency storage that is reserved for use in the event of supply interruptions from earthquakes or similar emergencies, as well as extended drought.

MWD's ability to replenish water storage, both in the local groundwater basins and in surface storage and banking programs has been limited by Bay-Delta pumping restrictions under the interim remedial order in the NRDC case discussed above. MWD replenishes its storage accounts when imported supplies exceed demands. Effective storage management is dependent on having sufficient years of excess supplies to store water so that it can be used during times of shortage. Historically, excess supplies have been available in about seven of every ten years. MWD forecasts that with anticipated supply reductions from the SWP due to pumping restrictions, it will need to draw down on storage in about seven of ten years and will be able to replenish storage in about three years out of ten. This reduction in available supplies extends the time required for storage to recover from drawdowns and could require MWD to implement its water supply allocation plan during extended dry periods.

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[26] *Ibid.*

From 2007 to 2009, MWD drew down approximately one million AF of its stored water to meet regional demands. At its highest in July 2006, MWD's storage was 2.74 million AF, including emergency storage. As of January 1, 2011, MWD had approximately 2.29 million AF of water in storage, including emergency storage. Groundwater storage and other storage programs may have physical or contractual conditions that affect withdrawal capacity or limit the maximum amount that may be withdrawn each year.

MWD Plans and Programs

As discussed in the Regulatory Framework section provided in Appendix G of this Draft EIR, MWD has established several plans and programs to address water supplies. These plans include the Urban Water Management Plan, the Integrated Resources Plan, the Water Surplus and Drought Management Plan, the Water Supply Allocation Plan, and the Five-Year Supply Plan.

(d) Drought Conditions

Information regarding the most recent drought of 2007–2009 indicates that water years 2007–2009 represent the 12th driest three-year period in the state's measured hydrologic record.[27] Water year 2009 was notable in that January, normally the single wettest month, was extremely dry.[28] As indicated in Table IV.K.1-3 on page IV.K.1-24, from 2007 to 2009, the City experienced below average precipitation. In response to the drought conditions experienced during water years 2007–2009 as well as the Delta Smelt issue for the SWP, the Governor declared a State of Emergency—Water Shortage on February 27, 2009.

In response to the Governor's declaration, DWR established a 2009 Drought Water Bank. In 2009 approximately 275,000 AF of water was transferred from north of the Delta to south of the Delta. Of the total, approximately 75,000 AF was transferred through the Drought Water Bank. The remaining transfers were privately negotiated. Following the 2009 Drought Water Bank, many water transfer stakeholders requested increased flexibility to negotiate their own water purchases and requested that DWR and the Bureau of Reclamation facilitate water transfers but not operate a Drought Water Bank in 2010.

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[27] *Agencies such as the California Department of Water Resources report hydraulic data on a water year basis. A water year extends from October 1 through September 30.*

[28] *California Department of Water Resources. California Drought—An Update, December 2009, http://www.northtrinitylake.com/water/pdf/dec09_drought_report.pdf.*

Table IV.K.1-3
City of Los Angeles Precipitation

2007	2008	2009	Average
3.21 inches	10.29 inches	7.98 inches	13.00 inches

Source: California Department of Water Resources, California's Drought of 2007–2009, September 2010, www.water.ca.gov/waterconditions/drought/pubs.cfm.

DWR, Bureau of Reclamation and the water transfer stakeholders also agreed that a long-term water transfer program should be developed.

In 2010, the possibility of continuing drought and low reservoir storage levels were likely to require some areas in California to supplement their water supplies with transfers from willing sellers. Subsequently, the DWR and Bureau of Reclamation implemented the 2010 Water Transfer Program to facilitate the transfer of water throughout the state between willing sellers and buyers that were at risk of experiencing water shortages.[29] The DWR and Bureau of Reclamation also implemented the Water Transfer Program during year 2011 and are continuing to offer this program for year 2012. By summer 2010 (well into water year 2010), hydrologic conditions had improved significantly in comparison to the three prior dry years. Late spring storms in 2010 brought statewide precipitation to slightly above average levels and resulted in above average runoff forecasts for all major Sierra Nevada watersheds. By the end of June 2010, statewide runoff was forecasted to be 121 percent of average and on March 31, 2011, California Governor Jerry Brown declared an end to the statewide drought emergency.

As a result of improved hydrologic conditions, storage in most major in-state reservoirs has rebounded. Specifically, precipitation over the Colorado River Basin from October 2010 through April 2011 was significantly above normal with upper Colorado River Basin snowpack measured in May 2011 at 150 percent of normal and runoff from April–July 2011 measured at 163 percent of normal. In addition, during calendar year 2010, MWD's net delivery of SWP supplies in Central Valley groundwater storage programs was over 174,000 AF. Additionally, storage in Diamond Valley Lake on January 1, 2011, was approximately 640,000 AF, an increase of approximately 256,000 from Diamond Valley

[29] *California Department of Water Resources and Bureau of Reclamation. 2010 Water Transfers Program Summary, www.water.ca.gov/watertransfers/docs/2010WaterTransfersProgram.pdf; accessed February 22, 2012.*

Lake's level on January 1, 2010, and was filled to 98 percent of capacity by late May 2011.[30]

(e) Global Warming and Climate Change

Climate change has also been a critical factor for California's water supply. Potential impacts of climate change on California's water resources include increases in temperature that could result in drought, stressed cold-water species in rivers, and increased demand for irrigation; changes in precipitation patterns that could lead to floods, lowered groundwater table, a reduction in snowpack, and decreased hydroelectric power; and changes in sea levels that could increase pressure on Delta levees.[31]

While climate change is expected to continue through at least the end of this century, the exact magnitude and nature of future changes are uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. However, the Draft *State Water Project Delivery Reliability Report 2011* prepared by DWR indicates that depending on the climate change conditions, average yearly SWP Table A deliveries[32] from the Delta could be 60 percent of the maximum delivery amount in 2029, while the minimum annual delivery (during a single dry year) could be 11 percent of the maximum delivery amount.[33] In addition, DWR projects that by 2050 the Sierra snowpack will be reduced from its historical average by 25 to 40 percent. Increased precipitation falling as rain instead of snow during winter could result in a larger number of "rain-on-snow" events. This would cause the snow to melt earlier in the year and over fewer days than historically, thus adversely affecting availability of water for pumping by the SWP during summer.[34]

The effects and potential future effects of climate change are part of the uncertainties water managers face as they plan for the future. The *California Water Plan*

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[30] *Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.*

[31] *California Department of Water Resources, Managing an Uncertain Future, October 2008.*

[32] *Table A water deliveries represent the schedule of the maximum amount of water that water contractors to the DWR may receive annually from the SWP. There are 29 water contractors who have signed long term contracts with the DWR for a total of 4.173 million AF per year. Table A deliveries are not guarantees of annual delivery amounts but are used to allocate individual contractors' portion of the delivery amounts available.*

[33] *California Department of Water Resources. Draft State Water Project Delivery Reliability Report 2011 and Technical Addendum, http://baydeltaoffice.water.ca.gov/swpreliability/; accessed February 24, 2012.*

[34] *Ibid.*

Update 2009 prepared by DWR promotes ways to develop a common approach for addressing uncertainty and risk in the state's future water supplies. The new approach incorporates consideration of uncertainty, risk, and sustainability into planning for the future. Additionally, the DWR prepared in October 2008 the *Climate Change Adaption Strategies for California's Water*, which presents 10 climate change adaption strategies for California's water. These strategies include: (1) Provide sustainable funding for Statewide and Integrated Regional Water Management; (2) Fully develop the potential of integrated regional water management; (3) Aggressively increase water use efficiency; (4) Practice and promote integrated flood management; (5) Enhance and sustain ecosystems; (6) Expand water storage and conjunctive management of surface and groundwater resources; (7) Fix Delta water supply, quality, and ecosystem conditions; (8) Preserve, upgrade, and increase monitoring, data analysis, and management; (9) Plan for and adapt to sea level rise; and (10) Identify and fund focused climate change impacts and adaption research and analysis.

MWD also recognizes that climate change will require water suppliers to develop new, alternative water supplies and to focus on water use efficiency. In March 2002, MWD's Board of Directors adopted climate change policy principles that relate to water resources. These principles are reflected in MWD's water supply planning efforts, including the IRP. MWD has also approved criteria to further explain its position on the conveyance options that are currently being discussed to remedy the Delta, which include addressing projected sea level rise and change in inflows due to climate change. MWD's criteria provide that, "whatever option is chosen, it should provide water supply reliability, improve export water quality, allow flexible pumping operations in a dynamic fishery environment, enhance the Delta ecosystem, reduce seismic risks, and reduce climate change risks." (Report for Metropolitan Water District of Southern California Board Meeting September 11, 2007, Agenda Item 8-4.) In addition, the draft Delta Plan seeks to reduce reliance on Delta water supplies by encouraging farms and cities to increase conservation and become more self-sufficient, particularly in the event of a disaster in the Delta. Furthermore, as described above, the BDCP aims to develop a long-term conservation strategy that sets forth actions needed for a healthy Delta.[35]

Based on ongoing environmental and policy planning efforts, MWD has demonstrated a commitment to addressing climate change by evaluating the vulnerability of its water systems to global warming impacts and has developed appropriate response strategies and management tools that account for the impacts of climate change on future

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[35] *Ibid.*

water supplies. For further discussion on the effects of global climate change, please refer to Section IV.F.1, Air Quality, of this Draft EIR.

(f) Water Conservation and Recycling

Water conservation and recycling will play an increasing role in meeting future water demands. LADWP has implemented water conservation and recycling programs with efforts underway to further promote and increase the level of these programs. LADWP is committed to supplying a higher percentage of the City's water demand through water conservation and recycling. In addition, as discussed further below, the Mayor and LADWP have prepared "*Securing L.A.'s Water Supply*," which serves as a template for creating sustainable sources of water for the future of the City to reduce dependence on imported supplies. This plan incorporates an aggressive multi-pronged approach that includes: investments in state-of-the-art technology; a combination of rebates and incentives; the installation of smart sprinklers, efficient washers, and urinals; and long-term measures, such as expansion of water recycling and investment in cleaning up the local groundwater supply. The premise of the plan is for the City to meet all new demand for water due to projected population growth through a combination of water conservation and water recycling.

(2) Water Demand

LADWP's 2010 UWMP provides water supply and demand projections in five-year increments to 2035, based on projected population estimates provided by the Southern California Association of Governments (SCAG). Table IV.K.1-4 on page IV.K.1-28 shows the projected water demand from the year 2015 through 2035 for the City of Los Angeles.

As shown in Table IV.K.1-4, in 2035 during average year hydrological conditions, the City's water demand is forecasted to be approximately 710,800 AF per year. Utilizing the current demand per capita provides a conservative estimate of projected future water demand to ensure that water supplies are available to meet projected demands. LADWP's 2010 UWMP anticipates adequate water supplies would be available to the service areas under normal, single-dry, and multi-dry year conditions through 2035.[36]

The forecast of total existing water usage at the Project Site is based on actual water usage during the 2010 calendar year as provided by the Applicants. Based on past water meter data and as shown in Table IV.K.1-5 on page IV.K.1-29, the Project Site's

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[36] *Los Angeles Department of Water and Power, 2010 Urban Water Management Plan.*

Table IV.K.1-4
City of Los Angeles Water Demand Projections Based on Hydrological Conditions
(Thousand AFY)

Hydrological Conditions	Years				
	2015	**2020**	**2025**	**2030**	**2035**
Average Year	614.8	652	675.6	701.2	710.8
Single Dry Year	651.7	691.1	716.1	743.2	753.4
	2011	**2012**	**2013**	**2014**	**2015**
Multi-Dry Year (2011–2015)	590	608.2	626.5	602.9	627.1
	2016	**2017**	**2018**	**2019**	**2020**
Multi-Dry Year (2016–2020)	647.1	661.2	675.4	644.6	665.1
	2021	**2022**	**2023**	**2024**	**2025**
Multi-Dry Year (2021–2025)	683	694.5	706.1	670.9	689.1
	2026	**2027**	**2028**	**2029**	**2030**
Multi-Dry Year (2026–2030)	707.9	720.1	732.4	696.1	715.2
	2031	**2032**	**2033**	**2034**	**2035**
Multi-Dry Year (2031–2035)	731.2	740.3	749.3	708.8	725

Source: Los Angeles Department of Water and Power, 2010 Urban Water Management Plan.

demand for water, including water demand from Central Plant operations and landscaping irrigation, is approximately 72,667 gallons per day (gpd) or 81.40 AF per year.

In addition, as shown in Table IV.K.1-6 on page IV.K.1-30 of the existing Project Site water consumption, the existing uses to be removed as part of the Proposed Project consume approximately 48,340 gallons of water per day or 54.15 AF annually.

(3) Water Infrastructure

The existing domestic water infrastructure in the Project vicinity includes water lines that are owned and maintained by LADWP. These include: 16-inch and 20-inch mains on L.A. Live Way, north of Pico Boulevard; a 20-inch main on Chick Hearn Court extending from L.A. Live Way to Figueroa Street and beyond; 12-inch, 16-inch, 20-inch, and 24-inch mains on Figueroa Street; a 24-inch main on Venice Boulevard; 8-inch and 16-inch mains on Pico Boulevard extending from L.A. Live Way to Figueroa Street and beyond; 12-inch mains on South Hall Drive; and a 12-inch main on 15th Street. In addition to providing domestic water service, LADWP also provides water for firefighting services in accordance with the Fire Code of the City of Los Angeles Municipal Code. Water for firefighting

Table IV.K.1-5
Existing Project Site Water Consumption

	Water Use	
	gpd	**AFY**
General Consumption[a]		
Convention Center[b,c]		
West Hall	10,448	11.70
All Other Convention Center Facilities	24,327	27.25
Convention Center Subtotal	*34,775*	*38.95*
Central Plants[d]		
Convention Center	22,485	25.19
STAPLES Center	2,910	3.26
Central Plants Subtotal	*25,394*	*28.45*
Irrigation[e]		
All Locations (Event Center Plaza; Gilbert Lindsay Plaza, and Plaza Area along L.A. Live Way)	12,498	14.00
Total Existing Project Site Water Consumption	**72,667**	**81.40**

[a] *Excludes STAPLES Center as no changes are proposed to this facility under the Proposed Project.*

[b] *Total annual water consumption during 2010 less water used for the Central Plant and Irrigation. Based on data provided by the Los Angeles Convention Center Inc., 2011.*

[c] *Includes approximately 74,330 sf of kitchen area, 113,345 sf of meeting room space, and 89,414 sf of office space.*

[d] *Based on data provided by Syska Hennessy Group, Inc., 2011.*

[e] *Based on data provided by the Los Angeles Convention Center Inc., 2011.*

Source: Los Angeles Department of Water and Power, Matrix Environmental, February 2012.

purposes is supplied to the Project Site via 60 public fire hydrants located at regular intervals approximately 250 feet throughout the Project Site. Figure IV.K.1-1 on page IV.K.1-31 illustrates the existing water infrastructure in the Project vicinity.

As shown in Figure IV.K.1-2 on page IV.K.1-32, the Project Site is located in LADWP's Central District, within the 386 water distribution system elevation zone. Per LADWP, pressures in the entire 386 water distribution system elevation zone range from 38 psi to 120 psi. Within the water system serving the Project vicinity, the existing average pressure is 53 psi. This represents the low static pressure, which is defined as the pressure within the water system during peak demand and maximum daily flow. Water pressure and flow in existing LADWP water mains is measured from LADWP's hydraulic

Table IV.K.1-6
Water Consumption of Existing Project Site Uses to be Removed

	Water Use[a,b]	
	gpd	**AFY**
West Hall	10,448	11.70
Central Plants		
Convention Center	22,485	25.19
STAPLES Center	2,910	3.26
Central Plants Subtotal	***25,394***	***28.45***
Irrigation		
All Locations (Event Center Plaza; Gilbert Lindsay Plaza, and Plaza Area along L.A. Live Way)	12,498	14.00
Total Water Consumption of Existing Uses to be Removed	**48,340**	**54.15**

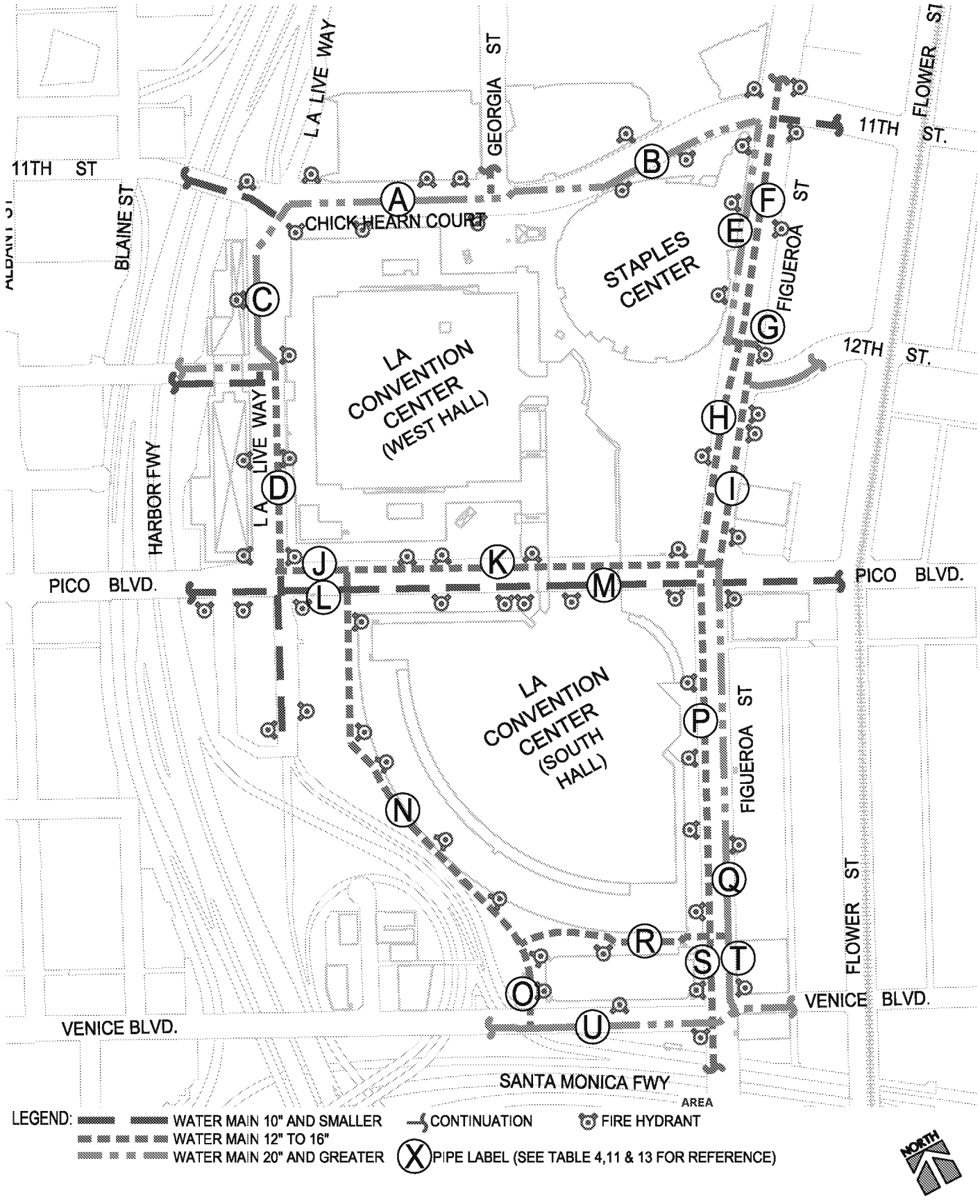
[a] *Water consumption of existing uses to be removed is based on water meter data during the 2010 calendar year.*

[b] *Totals may not add up exactly due to rounding.*

Source: Los Angeles Department of Water and Power, Water Supply Assessment for the Convention and Event Center Project, December 2011.

model. Pressure and flow readings for the specific water main segments serving the Project Site are provided in Table IV.K.1-7 on page IV.K.1-33.

Fire flow requirements are closely related to land use as the amount of water necessary for fire protection varies with the type of development found in the immediate community and the proposed development itself. City established fire flow requirements vary from 2,000 gallons per minute (gpm) in low-density residential areas to 12,000 gpm in high-density commercial and industrial area. Per consultation with City of Los Angeles Fire Department, the Project Site is classified as High Density Industrial and Commercial. Division 9 of the City of Los Angeles Fire Code requires that this type of development have fire flow capacity of 12,000 gpm available to any block. The Los Angeles Fire Department provided additional clarification for the Proposed Project that no more than 1,5000 gpm will be required from any one hydrant. Therefore, eight hydrants flowing simultaneously at 1,500 gpm each would be required to achieve 12,000 gpm. In addition, the minimum required distance between hydrants on roads and fire lanes is 300 feet. In all cases, a residual water pressure of 20 psi is to remain in the pipes while the appropriate fire flow is streaming.



Source: KPFF, 2012.

Figure IV.K.1-1
Existing Water Infrastructure in the Project Vicinity

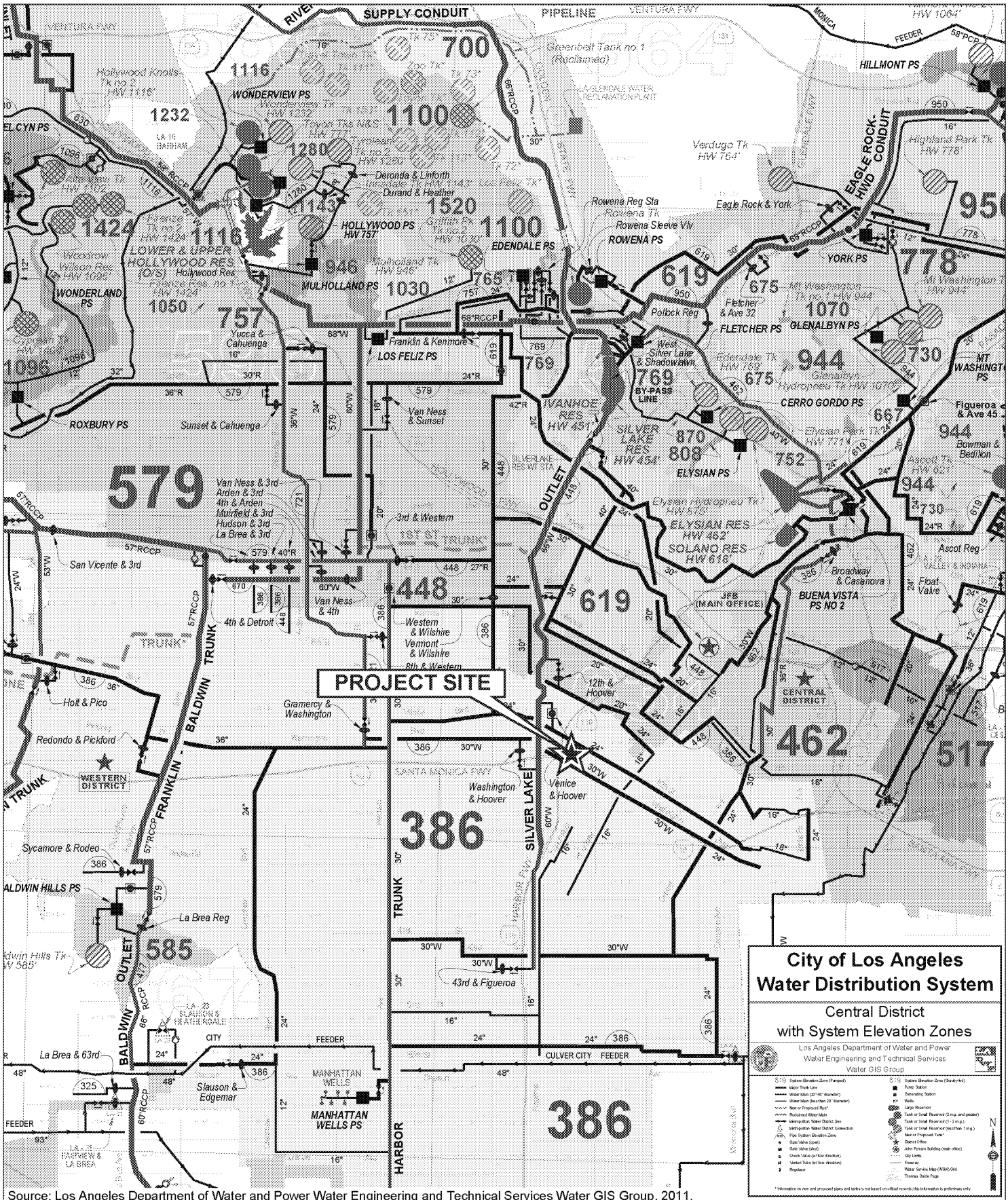


Figure IV.K.1-2
City of Los Angeles Water Distribution System

matrix environmental

Table IV.K.1-7
Existing Water Infrastructure

Pipe Segment (See Figure 2)	Pipe Size (inch)	Pipe Capacity[a] (cfs)	Pipe Flow[b] (cfs)	Pipe Flow/ Pipe Capacity (%)	Pipe Pressure[b] (psi)
Chick Hearn Court					
A	20	32.7	8.08	24.7	50.1
B	20	32.7	2.46	7.5	49.2
L.A. Live Way					
C	20	32.7	8.03	24.6	51.7
D	16	20.9	2.44	11.7	53.6
Figueroa Street					
E	20	32.7	1.77	5.4	49.3
F	12	11.8	0.75	6.4	50.0
G	24	47.1	1.29	2.7	50.0
H	12	11.8	1.23	10.4	50.7
I	16	20.9	4.20	20.1	50.7
P	12	11.8	1.01	8.6	52.9
Q	20	32.7	2.16	6.6	52.9
S	12	11.8	0.71	6.0	54.8
T	20	32.7	1.43	4.4	54.8
Pico Boulevard					
J	16	20.9	2.18	10.4	54.3
K	16	20.9	2.04	9.8	52.9
L	8	5.2	0.3	5.8	54.5
M	8	5.2	0.46	8.8	52.8
South Hall Drive					
N	12	11.8	0.01	0.1	54.7
O	12	11.8	1.24	10.5	55.4
15th Street					
R	12	11.8	1.03	8.7	54.9
Venice Boulevard					
U	24	47.1	8.12	17.2	55.4

cfs = cubic feet per second; psi = pounds per square inch

[a] *Based on maximum velocity of 15 feet/second.*

[b] *Pipe flow and pressure values were determined in consultation with LADWP.*

Source: KPFF Consulting Engineers, Water System Technical Report, March 2012.

3. Environmental Impacts

a. Methodology

The analysis of the Proposed Project's impacts relative to water supply is based on the Water Supply Assessment for the Proposed Project prepared by LADWP pursuant to SB 610 and approved on December 15, 2011 (see Appendix V of this Draft EIR). The Water Supply Assessment includes a calculation of the Proposed Project's water demand by LADWP. The analysis accounts for removal of existing uses as well as implementation of conservation features. In accordance with SB 610, the resulting net demand for water associated with the Proposed Project is then analyzed relative to LADWP's existing and planned future water supplies to determine if LADWP would be able to accommodate the Proposed Project's water demands during an average, dry, and multiple dry years.

In preparing the Water Supply Assessment, two methodologies for calculating water demand for the Convention Center were considered by LADWP. The first methodology (Methodology A) applied the City Bureau of Sanitation rates to the amount of development proposed (i.e., square footage, seats, etc.). The second methodology (Methodology B) was based on attendance, since it was anticipated that water demand would have a higher correlation to the number of people in attendance rather than the size of the building. The resulting demand calculations for each of these methodologies are shown in Table IV.K.1-8 on page IV.K.1-35.[37]

As shown in Table IV.K.1-8, when utilizing the City Bureau of Sanitation rates, the proposed Convention Center uses would generate a net increase of approximately 1.2 million gallons of water or 3.72 AF of water annually when compared with existing Convention Center uses. As shown in Table IV.K.1-8, use of the forecasted annual attendance estimated for the Convention Center would generate a net increase of approximately 6.2 million gallons of water or 18.92 AF of water annually when compared with existing Convention Center uses.[38]

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[37] *The water demand forecasts presented in Table IV.K.1-8 address only the Convention Center development to determine the appropriate methodology to be used in the analysis of Proposed Project impacts. The entire Proposed Project is evaluated further below under Analysis of Proposed Project Impacts.*

[38] *For more detailed information regarding the forecasted annual attendance, refer to Attachment C of the Water Supply Assessment for the Project provided in Appendix V of this Draft EIR.*

Table IV.K.1-8
Comparison of Convention Center Water Demand Under Two Methodologies to Identify Which Methodology Yields the Most Conservative Forecast of Water Generation

Methodology A: Standard Factors Based on Building Square Footage						
	Floor Area	Daily Water Consumption/ 1,000 Sq.Ft.[a]	Water Consumption/Event Day (gallons/day)	Number of Event Days	Annual Water Use	
					Gallons	Acre-Feet
Existing Convention Center						
Exhibit Space	772,748	80	61,820	293	18,113,260	55.59
Meeting Rooms	113,345	150	17,002	142	2,414,284	7.41
Offices	89,414	150	13,412	312	4,184,544	12.84
Other (Back-of-House)	488,834	80	39,107	355	13,882,985	42.61
Restaurant/Commissary/ Food Court	74,330	300	22,299	355	7,916,145	24.29
Water Consumption					**46,511,218**	**142.74**
Proposed Convention Center[b]						
Exhibit Space	780,506	80	62,440	293	18,294,920	56.14
Meeting Rooms	106,345	150	15,952	142	2,265,184	6.95
Offices	87,441	150	13,116	312	4,092,192	12.56
Other (Back-of-House)	525,678	80	42,054	355	14,929,170	45.81
Restaurant/Commissary/ Food Court	76,500	300	22,950	355	8,147,250	25.00
Water Demand					**47,728,716**	**146.46**
Increase Convention Center Water Demand (without water conservation features)					**1,217,498**	**3.72**

Methodology B: Water Demand Based on Attendance				
	Annual Attendance	Per Capita Water Consumption Factor	Annual Water Use	
			Gallons	Acre-Feet
Existing Convention Center	2,708,262	N/A	12,693,194[c]	38.95
Proposed Convention Center	4,020,959	4.69[d]	18,858,298	57.87
Net Convention Center Water Demand			**6,165,104**	**18.92**

[a] *The Los Angeles Department of Water and Power does not publish water consumption rates and have conservatively determined that use of City of Los Angeles. 2006. Los Angeles CEQA Threshold Guide Exhibit M.2-12 Sewage Generation Factors are an appropriate measure of water usage. For proposed uses that do not have standard Bureau of Sanitation factors, those factors deemed most similar are used.*

[b] *Floor Area excludes proposed retail and bicycle station uses planned for Gilbert Lindsay Plaza. This exclusion is made in order to allow for a direct comparison of the Convention Center under existing and proposed conditions.*

[c] *The forecast of total existing water usage at the Project Site is based on actual 2010 based on information provided by the Applicants.*

[d] *Per capita water consumption factor based on the annual Existing General Consumption for the Convention Center of 12,693,194 gallons divided by the estimated existing annual attendance of approximately 2,708,262 patrons. Existing General Consumption for the Convention Center includes, but is not limited to, restaurant, concessions, kitchens, commissaries, and pantries. The use of attendance as a predictor of future demand has been approved by the Los Angeles Convention Center Inc., 2011.*

Source: Matrix Environmental, 2012

Therefore, for purposes of providing a conservative analysis, the Water Supply Assessment is based on forecasted annual attendance for the Convention Center (Methodology B).

To address the full range of Proposed Project activities a number of water demand forecasts have been developed. Forecasts of water demand are provided below for both annual and daily conditions. As set forth in Section II, Project Description, of this Draft EIR, the Event Center component of the Proposed Project would be configured to host Spectator Events, Exhibition Events, and meeting room usage. Thus, the forecast for annual Event Center water demand takes into account the attendance levels attributable to each of these three types of events.

The analysis of daily water demand considers the use of Event Center for Spectator Events and Exhibition Events to determine which of these uses would generate the greater water demand. When hosting Spectator Events, the Event Center has been designed with 72,000 permanent seats with the capacity to expand to 76,250 seats for major events. Thus, in order to provide a conservative analysis, the analysis of daily Event Center water demand is based on an attendance level of 76,250 people. When hosting Exhibition Events (i.e., convention, exhibition, and/or meeting room events), the Event Center would provide a maximum of 143,500 square feet of Rentable Area of exhibition space and up to 102,150 square feet of Rentable Area meeting room space for a combined total of up to 245,650 square feet of Rentable Area. In addition, Convention Center daily water demand forecasts will be provided relative to existing operational levels as well as compared to days when no Convention Center activity is occurring.

The analysis with regard to water infrastructure is based on the Water System Technical Report dated March 2012 and prepared by KPFF Consulting Engineers (see Appendix W of this Draft EIR). The Water System Technical Report analyzes the adequacy of the existing water infrastructure system to accommodate the Proposed Project's water demand and is based on the changes in water pressure in the water lines serving the Project Site based on LADWP's hydraulic model.

b. Significance Thresholds

Appendix G of the CEQA Guidelines provides a set of sample questions that address impacts with regard to water supply. These questions are as follows:

Would the project:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

In the context of these questions from the CEQA guidelines, the *City of Los Angeles CEQA Thresholds Guide* states that the determination of significance with regard to impacts on water shall be made on a case-by-case basis, considering the following:

- The total estimated water demand for the project;
- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into consideration 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 Community Plan area to be exceeded in the year of project completion; and
- The degree to which scheduled water infrastructure or project design features would reduce or offset service impacts.

Based on these factors, the Project would have a significant impact if the City's water supplies would not adequately serve the Project or water distribution capacity would be inadequate to serve the proposed use after appropriate infrastructure improvements have been installed.

As the Proposed Project does not include the construction of new housing that would generate new population, the Proposed Project would not result in a direct population growth, which could impose additional water demand. However, the Proposed Project is expected to result in varying types of indirect growth associated with the creation of full- and part-time employment opportunities. As described further in Section IV.A, Land Use, of this Draft EIR, the Proposed Project's maximum net full-time equivalent employment would not exceed SCAG's employment forecasts. For additional analyses regarding the Proposed Project's potential to result in growth-inducing impacts, refer to Section VI, Other CEQA Considerations, of this Draft EIR.

c. Project Design Features

The proposed water conservation features that would be incorporated into the Proposed Project are provided in Table IV.K.1-9 on page IV.K.1-38.

Table IV.K.1-9
Proposed Project Water Conservation Features

Commercial/Public Facility Water Conservation Features	
Toilets	• High-efficiency toilets (maximum 1.28 gallons per flush)
Urinals	• High-efficiency urinals (0.125 gallon/flush) for the Convention Center, waterless urinals for the Event Center
Restroom Sink Faucets	• Low-flow faucets for public and most private locations with a maximum flow rate of 0.5 gallon per minute. Low-flow faucets will be of a self-closing design (i.e., that would automatically turn off when not in use)
Low-Flow Shower Faucets	• Install no more than one showerhead per shower stall, having a flow rate no greater than 2 gallons per minute
Commercial Kitchens	• Prep and Service faucets with low-flow control aerators—1.8 gallons per minute in lieu of standard 2.2 gallons per minute flow aerators
Dishwashers	• High-efficiency Energy Star-rated dishwashers within kitchen/food preparation area minimum per City ordinance requirements
Clothes Washers	• High-efficiency clothes washers (water factor of 6.0 or less), Energy Star-rated when possible. Includes both large and small washers to accommodate variances in load sizes
Cooling Equipment	• Cooling Tower Conductivity Controllers or Cooling Tower pH Conductivity Controllers • For Cooling Towers: Install purple piping and associated connections (i.e., reclaimed water infrastructure) to the property line for potential future connection to LADWP reclaimed water supply, pending confirmation of water chemical profile for acceptable use
Landscaping Water Conservation Measures	
Smart Irrigation Controllers	• Weather-based irrigation controller with rain shutoff • Matched precipitation (flow) rates for sprinkler heads • Drip/microspray/subsurface irrigation where appropriate • Minimum irrigation system distribution uniformity of 85 percent • A separate water meter (or submeter), flow sensor, and master valve shutoff shall be installed for irrigated landscape areas totaling 5,000 square feet and greater
Landscape Design and Plant Selection	• Proper hydro-zoning • Use of landscape contouring to minimize precipitation runoff • Use of artificial turf for the proposed Event Center playing surface
Reclaimed Water Infrastructure	• For Irrigation systems: Install purple piping and associated connections (i.e., reclaimed water infrastructure) to the property line for potential future connection to LADWP reclaimed water supply pending confirmation of water chemical profile for acceptable use
Water Performance Measurement	
Meters	• At minimum, whole building water meters for each facility that measure total potable water use. Submeters on cooling towers and irrigation subsystems per above.

Source: KPFF Consulting Engineers, Water System Technical Report, March 2012.

d. Analysis of Proposed Project Impacts

(1) Construction

A short-term demand for water would occur during Project construction. Demand for water would be associated with dust control, concrete mixers, truck cleanout, cleaning of equipment, and other short-term related activities. These activities would occur incrementally through Project buildout (i.e., intermittently from the start of construction to 2016 and possibly extending to 2017 should delays in construction occur) and would be temporary in nature. The amount of water used during construction would vary depending on the conditions of soils, weather, size of the construction site, and site-specific operations. The short-term water demand generated by Project construction activities would be substantially less than the Project at buildout and would be met by existing facilities. Based on the analysis of Project impacts below these facilities would be sufficient to meet the Project's construction demand.

As discussed further below, as part of Mitigation Measure K.1-1, the Proposed Project would require upgrading the existing 8-inch water main located on Pico Boulevard between L.A. Live Way and Figueroa Street to a 12-inch water main (Water Main Line M as shown in Figure IV.K.1-2 on page IV.K.1-32). Although construction impacts associated with this upgrade would primarily be confined to trenching, vehicle and pedestrian access on Pico Boulevard between L.A. Live Way and Figueroa Street may also be impacted. However, as discussed further in Section IV.B.1, Transportation, of this Draft EIR, to reduce any temporary pedestrian access and traffic impacts, the Applicants would implement a Construction Management Plan, which would ensure safe pedestrian access and vehicle travel in general, and emergency vehicle access in particular, throughout the construction period. On an overall basis, construction impacts would be of a relatively short-term duration (i.e., months) and would cease to occur once the installation of the water main is complete.

Based on the above, demolition and construction activities would require minimal water demand and are not anticipated to have any adverse impact on available water supplies and infrastructure. Additionally, construction activities associated with the installation of the proposed new water main would primarily be confined to trenching and would not extend beyond Pico Boulevard between L.A. Live Way and Figueroa Street. Therefore, Project impacts on water supply and infrastructure associated with short-term construction activities would be less than significant.

(2) Operation

(a) Water Supply

Development of the Proposed Project would result in an increase in long-term water demand for consumption, operational uses, maintenance, and other activities on the Project Site. As shown in Table IV.K.1-10 on page IV.K.1-41, based on the forecasted annual attendance at the Project Site, buildout of the Proposed Project, with incorporation of the City's water efficiency requirements, would result in a total annual water consumption of approximately 84.3 million gallons or 258 AF in potable water demand. However, water and energy conservation features would be incorporated into the new development pursuant to Title 24 of the California Code of Regulations as well as the City of Los Angeles requirements and as outlined under the project design features provided above. Specifically, incorporation of the Applicants' specified commitment towards water conservation would result in water savings as compared to the forecasted demand amounting to approximately 3.1 million gallons or 10 AF per year. Thus, the net increase in water demand, after accounting for water conservation measures and existing Project Site water consumption, would be approximately 63.5 million gallons or 194 AF per year.

As discussed above, in addition to evaluating Proposed Project annual water demand, this analysis also addresses Proposed Project daily impacts. The existing daily baseline attendance for the Convention Center is estimated to be 17,000 patrons based on parking survey data. Future attendance is forecasted to be 15 percent above baseline conditions or 19,550 persons. Therefore, as shown in Table IV.K.1-11 on page IV.K.1-42, Convention Center daily impacts are based on a daily attendance increase of 2,550 patrons. In addition, as the attendance on days when there is no existing Convention Center activity is zero patrons, Convention Center impacts shown in Table IV.K.1-12 on page IV.K.1-43 are based on an incremental increase of 19,550 patrons. As the Event Center is a new building, the daily water demand analysis for the Event Center is based on the maximum Event Center attendance of 76,250 patrons.

Based on the above and as shown in Table IV.K.1-11 on page IV.K.1-42, Proposed Project net daily impacts after accounting for water conservation measures and existing uses to be removed would result in a water demand of 640,683 gpd.[39] In addition, as shown in Table IV.K.1-12, Proposed Project daily impacts when there is no existing

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[39] *The daily water demand for the Proposed Project as set forth in the WSA is based on dividing the annual total by 365 days. As the Event Center is forecasted to be in use 184 times a year, the daily forecast of water demand is based on the use of the Event Center for a Spectator Event with a capacity attendance of 76,250 as this represents the highest daily water use for the Event Center of all possible ways the Event Center may be used (e.g., exhibitions, meetings, or a combination of the two).*

Table IV.K.1-10
Forecast of Proposed Project Annual Water Demand—General Consumption

	Per Capita Water Consumption	Forecasted Annual Attendance	Floor Area (sq.ft.)	Water Consumption/ 1,000 sq.ft.	Water Demand[a]	
					Gallons/Year	AFY
Convention Center[h]						
Patron Use	4.6874[b]	4,020,959			18,847,843	57.84
Retail			3,975	29.2	116,070	0.36
Bike Station			3,250	29.2	94,900	0.29
Event Deck			8,000	29.2	233,600	0.72
Convention Center Sub-Total					***19,292,413***	***59.21***
Water Efficiency Requirements Ordinance Savings					***(2,048,380)***	***(6.29)***
Convention Center Sub-Total (with water savings)					***17,244,033***	***52.92***
Event Center						
Patron Use	8.8778[c]	6,094,190			54,103,000	166.04
Water Efficiency Requirements Ordinance Savings					***(3,179,515)***	***(9.76)***
Event Center Sub-Total (with water savings)					***50,923,485***	***156.29***
Central Plant						
All Facilities (Convention Center, Event Center, STAPLES Center)[d]					11,854,423	36.38
Irrigation[e]						
Event Center Plaza			4,317		103,295	0.32
Gilbert Lindsay Plaza			69,485		1,672,795	5.13
L.A. Live Way			40,656		978,565	3.00
Football Field			57,600		1,494,675	4.59
Water Fountain[f]			—		16,425	0.05
Irrigation Sub-Total					***4,265,755***	***13.09***
Proposed Project Water Demand Total					**84,287,696**	**258**
Water Reduction Based on Project Design Features[g]					**(3,109,800)**	**(10)**
Existing Project Site Uses to be Removed					**(17,644,100)**	**(54.15)**
Proposed Project Net Increase in Water Demand					**63,533,796**	**194**

(x,xxx) = negative number

[a] *Totals may not add up exactly due to rounding.*

[b] *Based on the annual Existing General Consumption for the Convention Center of 12,693,194 gallons divided by the estimated existing annual attendance of approximately 2,708,262 patrons. Existing General Consumption for the Convention Center includes, but is not limited to, restaurant, concessions, kitchens, commissaries, and pantries.*

[c] *Based on per capita water consumption factor provided by the LADWP.*

[d] *Based on forecast provided by Syska Hennessy Group, Inc., 2011.*

[e] *Estimated by Landscape Water Management Program v1.4 developed by Irrigation Training and Research Center of California Polytechnic State University, San Luis Obispo.*

[f] *Based on a 2,000 gallon reservoir emptied and refilled three times per year for maintenance and 10 percent weekly evaporation loss.*

[g] *Based on additional water conservation measures as described in the Water Supply Assessment for the Convention and Event Center Project.*

[h] *The Bike Station may be located off-site and the Event Deck is no longer proposed. However, water demand from these uses is included in the water demand for the Proposed Project for the purposes of providing a more conservative analysis.*

Source: LADWP, Water Supply Assessment for the Convention and Event Center Project, December 2011.

Table IV.K.1-11
Proposed Project Daily Water Demand

Land Use	Patrons or Floor Area	Factor (gpd/unit)[a]	Water Use (gpd)[b]
Convention Center			
Exhibit/Meeting Rooms	2,550 patrons[c]	4.6874/patron[d]	11,953
Retail[e]	3,975 sq.ft.	80/1,000 sq.ft.	318
Bike Station	3,250 sq.ft.	80/1,000 sq.ft.	260
Event Deck	8,000 sq.ft.	80/1,000 sq.ft.	640
Convention Center Subtotal			***13,171***
Water Efficiency Requirements Ordinance Savings[f]			**(5,612)**
Convention Center Subtotal (with Water Savings)			***7,559***
Event Center	76,250 patrons	8.8778/patron[g]	**676,932[h]**
Water Efficiency Requirements Ordinance Savings			**(39,780)**
Event Center subtotal (with Water Savings)			***637,152***
Central Plant			**32,485**
Irrigation			**11,641**
Proposed Project Increase in Daily Water Demand			**688,837**
Water Reduction Based on Project Design Features[f]			**(10,262)**
Existing Project Site Uses to be Removed			**(37,892)**
Proposed Project Net Increase in Daily Water Demand			**640,683**

(x,xxx) = negative number

[a] *Factors for retail, office, bike station, Event Deck, and restaurant uses are based on the City of Los Angeles 2006 CEQA Threshold Guide Sewage Generation Factors.*

[b] *Totals may not add up exactly due to rounding.*

[c] *The existing daily baseline attendance for the Convention Center is estimated forecasted to be 17,000 patrons based on parking survey data. Future attendance is forecasted to be 15 percent above baseline conditions or 19,550 persons. Thus, Convention Center daily impacts are based on a daily attendance increase of 2,550 patrons (19,550 – 17,000 = 2,550).*

[d] *Per capita exhibition water consumption factor based on annual Existing General Consumption divided by estimated existing annual attendance (2,708,262 patrons).*

[e] *Includes all sources of water demand at Convention Center including but not limited to restaurant, commissary, and food court uses.*

[f] *Based on data provided in the Water Supply Assessment for the Convention and Event Center Project. The Water Supply Assessment calculates daily water savings based on annual savings divided by 365. The Event Center is forecasted to operate at varying capacity levels for a total of 184 days. The total daily water savings is calculated by developing a per capita water savings for Spectator Events based on annual usage and applying that to a capacity Event Center Spectator Event of 76,250. To this total all daily water savings for the Convention Center are added as it assumed that this facility would operate 365 days per year. Water savings from laundry facilities was calculated based on a maximum of 5 loads as specified in Attachment A to the WSA (see Appendix V of this Draft EIR).*

[g] *Based on per capita water consumption factor provided by the LADWP.*

[h] *This number differs from the Event Center base demand presented in the Water Supply Assessment as the Water Supply Assessment assumes that the Event Center would operate 365 days and thus averages the forecasted patronage of 6,094,190 over a year. However, in order to provide a conservative analysis, this table uses the maximum capacity of the Event Center of 76,250 patrons.*

Source: LADWP, Matrix Environmental, 2012.

Table IV.K.1-12
Proposed Project Daily Impacts with No Existing Convention Center Activity

Land Use	Patrons or Floor Area	Factor (gpd/unit)[a]	Water Use (gpd)[b]
Convention Center			
Exhibit/Meeting Rooms	19,550[c]	4.6874/person[d]	91,639
Retail[e]	3,975 sq.ft.	80/1,000 sf	318
Bike Station	3,250 sq.ft.	80/1,000 sf	260
Event Deck	8,000 sq.ft.	80/1,000 sf	640
Convention Center Subtotal			***92,857***
Water Efficiency Requirements Ordinance Savings[f]			**(5,612)**
Convention Center Subtotal (with Water Savings)			***87,245***
Event Center	76,250	8.8778/patron[g]	**676,932[h]**
Water Efficiency Requirements Ordinance Savings			**(39,780)**
Event Center Subtotal (with Water Savings)			***637,152***
Central Plant[i]			**32,485**
Irrigation[i]			**11,641**
Proposed Project Increase in Water Demand			**768,523**
Water Reduction Based on Project Design Features[f]			**(10,262)**
Existing Project Site Uses to be Removed			**(15,408)**
Proposed Project Net Increase in Water Demand			**742,853**

(x,xxx) = negative number

[a] *Factors for retail, office, bike station, Event Deck, and restaurant uses are based on the City of Los Angeles 2006 CEQA Threshold Guide Sewage Generation Factors.*

[b] *Totals may not add up exactly due to rounding.*

[c] *The attendance on days where there is no existing Convention Center activity is zero patrons. As the forecasted future activity is the same as the Proposed Project (19,550), the incremental increase when there is no existing Convention Center activity is 19,550 (19,550 - 0 = 19,550).*

[d] *Per capita exhibition water consumption factor based on annual Existing General Consumption divided by estimated existing annual attendance (2,708,262 patrons).*

[e] *Includes all sources of water demand at Convention Center including but not limited to restaurant, commissary, and food court uses.*

[f] *Based on data provided in the Water Supply Assessment for the Convention and Event Center Project.*

[g] *Based on per capita water consumption factor provided by the LADWP.*

[h] *This number differs from the Event Center base demand presented in the Water Supply Assessment as the Water Supply Assessment assumes that the Event Center would operate 365 days and thus averages the forecasted patronage of 6,094,190 over a year. However, in order to provide a conservative analysis, this table uses the maximum capacity of the Event Center of 76,250 patrons.*

[i] *Assumes existing STAPLES Center Central Plant and Project Site irrigation would be in use irrespective of zero water use from the West Hall and the Convention Center Central Plant.*

Source: LADWP, Matrix Environmental, 2012.

Convention Center activity and accounting for water conservation measures would result in water demand of 742,853 gpd. Based on LADWP's 2010 UWMP water demand projections, as shown in Table IV.K.1-4 on page IV.K.1-28, the water demand for the City in 2017[40] during average year hydrological conditions is expected to reach 629,700 AF. During a single-dry year, water demand could reach 667,500 AF and during a multiple-dry year (2016–2020), water demand is forecasted to reach 661,200 AF in 2017. As concluded in LADWP's 2010 UWMP, projected water demand for the City would be met by the available supplies during an average year, single-dry year, and multiple-dry year. Thus, the Proposed Project's estimated net increase in water demand of 194 AF per year, as shown in Table IV.K.1-10 on page IV.K.1-41, would be within the available and projected water supplies for average, single-dry, and multiple-dry years through the year 2035 water demand. In addition, as stated within the Water Supply Assessment for the Proposed Project (see Appendix V of the Draft EIR), the City Council found that the LADWP can provide sufficient domestic water supplies to the Proposed Project.

As described in detail above, LADWP's water supplies are facing challenges due to environmental concerns and litigation associated with LADWP's sources of water supply. Additionally, changes in hydrological conditions due to climate change could also have an impact on MWD's water supplies. In the *Draft SWP Delivery Reliability Report 2011*, DWR described and analyzed the reliability of SWP supplies in the Delta through 2031 based on hydrologic changes that could result from climate change and all ongoing regulatory restrictions governing SWP operations such as those imposed by federal biological opinions. Based on the hydrological models and accounting for climate change and reductions associated with the biological opinions on the effects of SWP and CVP operations on endangered and threatened species, average SWP Table A deliveries from the Delta could be decreased to 60 percent of the maximum delivery amount by 2031, while the minimum annual delivery (during a single dry year) would be 11 percent of the maximum amount.

As previously discussed, restoring the Delta's water capacity is a high priority for MWD, the former and present Governor of California, and the California Legislature. In particular, former Governor Schwarzenegger made the Delta and statewide water policy a high priority by establishing the Delta Vision Process and the Bay-Delta Conservation Plan, and the California Legislature is using SB 27 to find a long-term water supply solution for the Delta. As part of this solution, extensive plans are already underway for improving the operation of the Delta's water pumps while also protecting the Delta smelt and other endangered fish species. Specifically, the draft Delta Plan seeks to reduce reliance on

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[40] *Based on straight interpolation of 2015 and 2020 data.*

Delta water supplies by encouraging farms and cities to increase conservation and become more self-sufficient. The draft Delta Plan calls for agricultural water agencies to change pricing to encourage conservation and urges the State Water Board to set enforceable flow objectives for the Delta and its tributaries that take into account wildlife and habitat needs.[41] In addition, the CALFED Bay-Delta Program described in the Existing Conditions subsection above, will identify and implement conservation strategies to improve the overall ecological health of the Delta; identify and implement ecologically friendly ways to move fresh water through and/or around the Delta; address toxic pollutants, invasive species, and impairments to water quality; and provide a framework to implement the plan over time.

Along with MWD's water management and reliability initiatives, LADWP is committed to providing a reliable water supply for the City as provided in its plan *Securing L.A.'s Water Supply* which is described in the Regulatory Framework provided in Appendix G of this Draft EIR. This plan serves as a blueprint for creating sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. This plan incorporates an aggressive multi-pronged approach that includes: investments in state-of-the-art technology; a combination of rebates and incentives; the installation of smart sprinklers, efficient washers and urinals; and long-term measures such as expansion of water recycling and investment in cleaning up the local groundwater supply. This plan also takes into account the realities of climate change and the dangers of drought and dry weather. The primary premise of the plan is that the City of Los Angeles will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling. The plan also specifically addresses the current and future SWP supply shortages. The plan specifically concludes that MWD's actions in response to the threats to the SWP will ensure continued reliability of its water deliveries. The plan further states that "despite concerns about ongoing water shortages and higher costs, MWD has upheld its pledge to plan for emergencies and natural disasters throughout this region." In addition, as discussed above, MWD's storage capacity, which includes reservoirs, conjunctive use and other groundwater storage programs within MWD's service area and groundwater and surface storage accounts delivered through the SWP or Colorado River Aqueduct is approximately 5.54 million AF. As of January 1, 2011, which represents the most recent data available, MWD had approximately 2,291,000 AF of water in storage, including emergency storage. In total, this reserve of water supplies will be used to buffer the severity of a potential shortage. Furthermore, by focusing on demand reduction, implementation of the plan will ensure that long-term dependence on MWD supplies will not be exacerbated by potential future shortages.

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[41] *California Department of Water Resources. Draft State Water Project Delivery Reliability Report 2011 and Technical Addendum, http://baydeltaoffice.water.ca.gov/swpreliability/; accessed February 24, 2012.*

Additionally, as described in detail in the Water Supply Assessment for the Proposed Project, provided in Appendix V of this Draft EIR, water conservation and recycling will play an increasing role in meeting future water demands. Specifically, LADWP has implemented conservation and recycling programs with efforts underway to further promote and increase the level of these programs. In addition, through integrated planning, not only water-use efficiency and recycling activities are maximized, but potential alternative supplies such as water transfers, seawater desalination, and stormwater reuse are considered and evaluated as part of the City's long-term water resources portfolio. Based on the above, the estimated water demand for the Proposed Project would not exceed the available supplies projected by LADWP. Thus, LADWP would be able to meet the water demand of the Proposed Project, as well as the existing and planned future water demands of its service area. Therefore, the Proposed Project's impacts on water supply would be less than significant.

(b) Water Infrastructure

Water service to the Project Site would continue to be supplied by the LADWP for domestic and fire protection uses. In analyzing whether the existing water infrastructure would have sufficient capacity to accommodate the Proposed Project, an analysis of LADWP's hydraulic model was conducted considering the additional peak water demand for the Proposed Project. As shown in Table IV.K.1-13 on page IV.K.1-47, by applying the per capita consumption factors for the Convention Center and the Event Center, the peak daily water demand of the Proposed Project on the water distribution system is 3,382 gallons per minute (gpm). In addition, as shown in Table IV.K.1-14 on page IV.K.1-48, the peak daily water demand of the Proposed Project with No Existing Convention Center activity is 3,808 gpm.

As noted above, the Project Site is located within LADWP's 386 water distribution system elevation zone. Pressures within the 386 water distribution system range from 38 psi to 120 psi. In addition, the existing average pressure for the LADWP water system in the Project vicinity is 53 psi. For fire emergencies, the minimum pressure required is 20 psi. Although fire emergencies have lower pressure requirements, it is considered to be more conservative due to the large water demand required by the Fire Department for firefighting.

As shown in Table IV.K.1-15 on page IV.K.1-49, pressure fluctuations in the existing water distribution system due to additional domestic water demand from the Proposed Project range from 0.2 psi to 3.1 psi. In addition, as shown in Table IV.K.1-16 on page IV.K.1-50, pressure fluctuations with no existing Convention Center activity also range from 0.2 psi to 3.1 psi. Based on the Proposed Project's pressure fluctuations compared to existing conditions, pipe pressures for the Proposed Project would be generally comparable to the average pipe pressure of 53 psi in the Project vicinity.

Table IV.K.1-13
Proposed Project Peak Daily Domestic Water Flow

	Daily Water Demand (gpd)[a]	Peak Daily Water Demand (gpm)[b]
Convention Center[c]		
Patrons	13,171	
Central Plant	(4,164)[d]	
Water Reduction Due to City Ordinance Requirements and Project Design Features	(5,654)	
Net Convention Center Water Use	**3,353**	**14**
Event Center		
Patrons	676,932	
Central Plants		
Event Center	11,780	
STAPLES Center	(526)	
Subtotal	11,254	
Water Reduction Due to City Ordinance Requirements and Project Design Features	(41,481)	
Net Event Center Water Use	**646,705**	**3,368**
Total	**650,058**	**3,382**

[a] *Convention Center and Event Center daily water demand is based on Table IV.K.1-11 on page IV.K.1-42.*

[b] *Convention Center and Event Center events occur over a forecasted 8-hour period. Thus, to determine the peak daily water demand for the Convention Center, the daily water demand is divided by 8 hours divided by 60 minutes and multiplied by a peaking factor of 2.0. To determine the peak daily water demand for the Event Center, the daily water demand is divided by 8 hours divided by 60 minutes and multiplied by a peaking factor of 2.5. Note peak daily water demand is rounded to the nearest whole number.*

[c] *Includes water demand from retail, bike station, and Event Deck. As noted above, the bike station may be located offsite and the Event Deck is no longer part of the proposed project.*

[d] *Based on anticipated Convention Center Central Plant water demand of 18,321 gpd, as provided in the Water Supply Assessment for the Proposed Project, minus water consumption from existing Convention Center Central Plant to be removed of 22,485 gpd.*

Source: KPFF Consulting Engineers, Water System Technical Report March 2012.

Furthermore, pipe pressures from the Proposed Project would be within the acceptable pressure levels within the 386 water distribution system elevation zone which range from 38 psi to 120 psi. Thus, as the anticipated pipe pressures from the Proposed Project would be within the acceptable pressure levels of the water distribution system

Table IV.K.1-14
Proposed Project Daily Impacts with No Existing Convention Center Activity

	Daily Water Demand (gpd)[a]	Peak Daily Water Demand (gpm)[b]
Convention Center[c]		
Patrons	92,857	
Central Plant	18,321[d]	
Water Reduction Due to City Ordinance Requirements and Project Design Features	(5,654)	
Net Convention Center Water Use	**105,524**	**440**
Event Center Event Center		
Patrons	676,932	
Central Plants		
Event Center	11,780	
STAPLES Center	(526)	
Subtotal	11,254	
Water Reduction Due to City Ordinance Requirements and Project Design Features	(41,481)	
Net Event Center Water Use	**646,705**	**3,368**
Total	**752,229**	**3,808**

[a] *Convention Center and Event Center daily water demand is based on Table IV.K.1-11 on page IV.K.1-42.*

[b] *Convention Center and Event Center events occur over a forecasted 8-hour period. Thus, to determine the peak daily water demand for the Convention Center, the daily water demand is divided by 8 hours divided by 60 minutes and multiplied by a peaking factor of 2.0. To determine the peak daily water demand for the Event Center, the daily water demand is divided by 8 hours divided by 60 minutes and multiplied by a peaking factor of 2.5. Note peak daily water demand is rounded to the nearest whole number.*

[c] *Includes water demand from retail, bike station, and Event Deck.*

[d] *Based on anticipated Convention Center Central Plant water demand of 18,321 gpd, as provided in the Water Supply Assessment for the Proposed Project.*

Source: KPFF Consulting Engineers, Water System Technical Report, March 2012.

elevation zone for the Project Site and as flow levels would vary by no more than 9.3 percent, the incremental impact on flow and pressure in the water mains surrounding the Project Site due to the Proposed Project's additional domestic water demands is less than significant.

Regarding the existing water infrastructure system's ability to accommodate the Proposed Project's fire suppression water demands, LADWP determined that the worst case scenario represented flowing six fire hydrants connected to the existing 8-inch water

Table IV.K.1-15
Proposed Project Impacts on Water Infrastructure (Domestic Water Demand)

	Pipe Size (inch)	Pipe Capacity[a] (cfs)	Pipe Flow (cfs)	Pipe Flow/ Pipe Capacity (%)	Pipe Pressure (psi)	Change from Existing Conditions	
						Pipe Flow/ Pipe Capacity (%)	Pipe Pressure (psi)
Chick Hearn Court							
A	20	32.7	5.47	16.7	48.0	8.0	1.6
B	20	32.7	0.13	0.40	47.5	2.1	1.2
L.A. Live Way							
C	20	32.7	8.51	26.0	50.0	1.4	0.6
D	16	20.9	0.51	2.44	52.0	9.3	0.8
Figueroa Street							
E	20	32.7	3.90	11.9	47.5	6.5	1.2
F	12	11.8	1.06	8.98	47.0	2.6	3.0
G	24	47.1	N/A	N/A	48.0	N/A	2.0
H	12	11.8	1.39	11.8	49.0	1.4	1.1
I	16	20.9	2.31	11.1	49.0	9.0	1.2
P	12	11.8	1.21	10.3	51.0	1.7	0.2
Q	20	32.7	3.62	11.1	51.5	4.5	3.1
S	12	11.8	0.95	8.05	53.0	2.1	1.6
T	20	32.7	3.05	9.32	53.0	4.9	1.6
Pico Boulevard							
J	16	20.9	0.52	2.49	52.0	7.9	2.3
K	16	20.9	0.56	2.68	51.0	7.1	0.4
L	8	5.2	N/A	N/A	52.0	N/A	2.3
M	8	5.2	0.37	7.12	50.5	1.7	1.2
South Hall Drive							
N	12	11.8	0.83	7.03	53.0	6.9	1.3
O	12	11.8	1.83	15.5	53.5	5.0	1.7
15th Street							
R	12	11.8	0.81	6.86	53.0	1.8	1.6
Venice Boulevard							
U	24	47.1	5.84	12.4	53.5	4.8	1.5

Note: cfs = cubic feet per second; psi = pounds per square inch

[a] *Based on maximum velocity of 15 feet/second. Does not account for minor losses or contributions from the larger network*

Source: KPFF Consulting Engineers, Water System Technical Report March 2012.

Table IV.K.1-16
Proposed Project Impacts on Water Infrastructure with No Existing Convention Center Activity

Pipe Segment	Pipe Size (inch)	Pipe Capacity[a] (cfs)	Pipe Flow (cfs)	Pipe Flow/ Pipe Capacity (%)	Pipe Pressure (psi)	Change from Existing Conditions	
						Pipe Flow/ Pipe Capacity (%)	Pipe Pressure (psi)
Chick Hearn Court							
A	20	32.7	5.47	16.7	48.0	8.0	1.6
B	20	32.7	0.13	0.40	47.5	2.1	1.2
L.A. Live Way							
C	20	32.7	8.51	26.0	50.0	1.4	0.6
D	16	20.9	0.51	2.44	52.0	9.3	0.8
Figueroa Street							
E	20	32.7	3.90	11.9	47.5	6.5	1.2
F	12	11.8	1.06	8.98	47.0	2.6	3.0
G	24	47.1	N/A	N/A	48.0	N/A	2.0
H	12	11.8	1.39	11.8	49.0	1.4	1.1
I	16	20.9	2.31	11.1	49.0	9.0	1.2
P	12	11.8	1.21	10.3	51.0	1.7	0.2
Q	20	32.7	3.62	11.1	51.5	4.5	3.1
S	12	11.8	0.95	8.05	53.0	2.1	1.6
T	20	32.7	3.05	9.32	53.0	4.9	1.6
Pico Boulevard							
J	16	20.9	0.52	2.49	52.0	7.9	2.3
K	16	20.9	0.56	2.68	51.0	7.1	0.4
L	8	5.2	N/A	N/A	52.0	N/A	2.3
M	8	5.2	0.37	7.12	50.5	1.7	1.2
South Hall Drive							
N	12	11.8	0.83	7.03	53.0	6.9	1.3
O	12	11.8	1.83	15.5	53.5	5.0	1.7
15th Street							
R	12	11.8	0.81	6.86	53.0	1.8	1.6
Venice Boulevard							
U	24	47.1	5.84	12.4	53.5	4.8	1.5

Note: cfs = cubic feet per second; psi = pounds per square inch

[a] *Based on maximum velocity of 15 feet/second. Does not account for minor losses or contributions from the larger network*

Source: KPFF Consulting Engineers, Water System Technical Report, March 2012.

main on Pico Boulevard between L.A. Live Way and Figueroa Street and flowing two additional fire hydrants connected to the existing 16-inch main on L.A. Live Way at 1,500 gpm each for a total of 12,000 gpm from 8 hydrants flowing simultaneously. As shown in Table IV.K.1-17 on page IV.K.1-52, the pressure fluctuations in the water distribution system due to the worst-case fire flow scenario is less than 15 psi with the exception of the existing 8-inch main on Pico Boulevard (pipe segment M as shown in Figure IV.K.1-2 on page IV.K.1-32), which drops by over 37 psi, to below the minimum 20 psi requirement for fire emergencies. In addition, the average pipe velocity in this one 8-inch main increases to 112.1 percent of the pipe capacity. Therefore, the Proposed Project would result in a potentially significant impact to the existing water infrastructure system.

To mitigate this impact, the Applicants would implement Mitigation Measure K.1-1, which would require upsizing of the existing 8-inch water main to a 12-inch water main in Pico Boulevard between Figueroa Street and L.A. Live Way. The upsizing of the existing 8-inch water main would improve the pipe flow and pressure to meet the LADWP's maximum pipe velocity requirement of 15 feet per second, as well as the Fire Department's requirement of at least 20 psi at any hydrant flowing at 1500 gpm. Upon replacement of the 8-inch water main to a 12-inch water main, the lowest pressure would increase from 19 psi to 35 psi, well above the Fire Department's minimum pressure requirement of 20 psi. In addition, the pipe velocity would decrease from 112.1 percent to 48 percent of the pipe capacity. Overall, based on the estimated water demand and with implementation of Mitigation Measure K.1-1 to upgrade the existing 8-inch water main on Pico Boulevard, the water infrastructure would be able to supply the required water demand during a fire scenario while meeting the minimum fire pressure. Thus, after implementation of Mitigation Measure K.1-1, the existing water infrastructure would be adequate to accommodate the water demands of the Proposed Project and impacts would be less than significant.

4. Cumulative Impacts

The Proposed Project in conjunction with forecasted growth in the City, inclusive of the 133 related projects identified in Section III, Environmental Setting, of this Draft EIR, would cumulatively increase the demand for water, thus potentially resulting in cumulative impacts on water supplies and water infrastructure.

a. Water Supply

The geographic context for the cumulative impact analysis on water supply is the LADWP service area (i.e., the City). As discussed above, LADWP, as a public water service provider, is required to prepare and periodically update an UWMP to plan and provide for water supplies to serve existing and projected demands. The 2010 UWMP

Table IV.K.1-17
Proposed Project Impacts on Water Infrastructure (Fire Water Demand)

Pipe Segment	Pipe Size (inch)	Pipe Capacity[a] (cfs)	Pipe Flow (cfs)	Pipe Flow/ Pipe Capacity (%)	Pipe Pressure (psi)	Change from Existing Conditions	
						Pipe Flow/ Pipe Capacity (%)	Pipe Pressure (psi)
Chick Hearn Court							
A	20	32.7	9.48	30.0	42.5	5.3	7.6
B	20	32.7	3.92	12.0	41.5	4.5	7.7
L.A. Live Way							
C	20	32.7	8.23	25.2	44.5	0.6	10.2
D	16	20.9	8.88	42.5	45	30.8	8.6
Figueroa Street							
E	20	32.7	0.16	0.5	41.5	4.9	7.8
F	12	11.8	0.59	5.0	41.5	1.4	8.5
G	24	47.1	1.65	3.5	42.0	0.8	8.0
H	12	11.8	5.52	46.8	43.0	36.4	14.3
I	16	20.9	2.13	10.2	44.0	9.9	6.7
P	12	11.8	3.85	32.6	46.0	24.0	6.9
Q	20	32.7	6.04	18.5	46.0	11.9	6.9
S	12	11.8	3.85	32.6	48.0	26.6	6.8
T	20	32.7	5.65	17.3	48.0	12.9	6.8
Pico Boulevard							
J	16	20.9	2.09	10.0	45.0	0.4	9.3
K	16	20.9	3.92	18.8	44.5	9.0	7.4
L	8	5.2	1.68	32.3	45.0	26.5	9.8
M	8	5.2	5.83	112.1	15.0[b]	103.1	37.4
South Hall Drive							
N	12	11.8	2.69	22.8	46.5	22.7	8.2
O	12	11.8	3.28	27.8	48.5	17.3	6.9
15th Street							
R	12	11.8	0.40	3.4	48.0	5.3	6.9
Venice Boulevard							
U	24	47.1	11.73	24.9	48.5	7.7	6.9

Note: cfs = cubic feet per second; psi = pounds per square inch

[a] *Based on maximum velocity of 15 feet/second. Does not account for minor losses or contributions from the larger network.*

[b] *The only location where the psi with the Proposed Project is below 20 psi, the regulatory minimum, occurs along pipe segment M. This represents fire flow, and not typical, conditions. Once the 8-inch water main is upsized to a 12-inch water main, the lowest reading would increase to 35 psi, well above the regulatory minimum of 20 psi.*

Source: KPFF Consulting Engineers, Water System Technical Report, March 2012.

prepared by LADWP accounts for existing development within the City, as well as projected growth through the year 2035.

As previously stated, the LADWP's 2010 UWMP projected that water demand within the LADWP service area in 2035 would reach 710,800 AF during average year hydrological conditions, 753,400 AF during a single-dry year, and 725,000 AF during a multiple-dry year. Based on the service area reliability assessment conducted by the LADWP in its 2010 UWMP, LADWP determined that it will be able to reliably provide water to its customers through the year 2035. In addition, based on a straight interpolation of 2015 and 2020 data, as shown in Table IV.K.1-4 on IV.K.1-28, water demand within the LADWP service area in 2017 would reach 629,700 AF during average year hydrological conditions, 667,500 AF during a single-dry year, and 661,200 AF during a multiple-dry year. Based on the service area reliability assessment conducted by the LADWP in its 2010 UWMP, LADWP determined that it will be able to reliably provide water to its customers through the year 2035, as well as the intervening years (i.e., 2017).

Additionally, under the provisions of SB 610, LADWP is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area. The types of projects that are subject to the requirements of SB 610 tend to be larger projects (e.g., residential projects with at least 500 dwelling units, shopping centers employing more than 1,000 persons or having more than 500,000 square feet of floor space, commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space, etc.) that may or may not have been included within the 2017 growth projections of the 2010 UWMP. The water supply assessment for such projects would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed. In addition, as described above, SB 221 requires that for residential subdivisions with 500 units or more that are in non-urban areas, written verification from the service provider (e.g., DWP) be submitted indicating sufficient water supply is available to serve the proposed subdivision, or the local agency shall make a specified finding that sufficient water supplies are or will be available prior to completion of the project.

Furthermore, as discussed above, in response to challenges in securing future water supplies due to among other things drought, environmental restrictions, and climate change, the Mayor and LADWP released a Water Supply Action Plan entitled Securing L.A.'s Water Supply dated May 2008. The primary premise of the plan is that the City of Los Angeles will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling. The plan will serve as a blueprint for creating sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. LADWP is planning to achieve these goals by expanding its water

conservation efforts through public education, installing high efficient water fixtures, providing incentives, and expanding the City's outdoor water conservation program. To increase recycled water use, LADWP is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge.

Compliance of the Proposed Project and future development projects with regulatory requirements that promote water conservation such as the LAMC, including the City's Green Building Code, as well as AB 32 which is discussed in detail in Section IV.F.1, Air Quality, of this Draft EIR, would also assist in assuring that adequate water supply is available on a cumulative basis.

Based on the above, it is anticipated that LADWP would be able to supply the demands of the Proposed Project and future growth through 2017 and beyond. Therefore, cumulative impacts on water supply would be less than significant.

b. Water Infrastructure

The geographic context for the cumulative impact analysis on water infrastructure is the Project vicinity. Development of the Proposed Project and future new development in the Project vicinity would cumulatively increase water demand on the existing water infrastructure system. However, new development projects would be subject to LADWP review to assure that the existing public utility facilities would be adequate to meet the domestic and fire water demands of each project. Furthermore, LADWP, Los Angeles Department of Public Works, and the City of Los Angeles Fire Department would conduct ongoing evaluations to ensure facilities are adequate. Therefore, cumulative impacts on the water infrastructure system would be less than significant.

5. Project Design Features and Mitigation Measures

a. Project Design Features

Project Design Feature K.1-1: As indicated in the Applicant's Sustainability Program (see Appendix E of this Draft EIR) the New Hall and the Event Center will achieve a water use reduction of 33 percent and 35 percent of the estimated baseline.[42] These water reduction

[42] *Water Baseline calculated according to the maximum allowable water use per plumbing fixture and fittings as required by the California Building Standards Code as cited in 2010 Los Angeles Green Building Code.*

requirements shall be met by specific measures which may include the following:

Commercial/Public Facility Water Conservation Features

- Install high-efficiency toilets that use a maximum of 1.28 gallons per flush.
- Install high-efficiency urinals (0.125 gallon/flush) for the Convention Center, and waterless urinals for the Event Center.
- Install low-flow faucets for public and most private locations with a maximum flow rate of 0.5 gallon per minute. Low-flow faucets will be of a self-closing design (i.e., that would automatically turn off when not in use).
- Install no more than one showerhead per shower stall, having a flow rate no greater than 2 gallons per minute.
- Install Prep and Service faucets with low-flow aerators that use 1.8 gallons per minute in lieu of the standard 2.2 gallons per minute.
- Install high efficiency dishwashers that are Energy Star rated or equivalent within kitchen/food preparation areas minimum per City ordinance requirements.
- Install high-efficiency clothes washers with a water factor of 6.0 or less that are Energy Star rated, when possible. Includes both large and small washers to accommodate variances in load sizes.
- Cooling Tower Conductivity Controllers or Cooling Tower pH Conductivity Controllers.
- For Cooling Towers: Install purple piping and associated connections (i.e., reclaimed water infrastructure) to the property line for potential future connection to LADWP reclaimed water supply, pending confirmation of water chemical profile for acceptable use.

Landscaping Water Conservation Measures

- Install high-efficiency irrigation systems, including weather-based irrigation controllers with rain shutoff technology.
- Install matched precipitation (flow) rates for sprinkler heads.
- Install drip/microspray/subsurface irrigation, where appropriate.
- Achieve minimum irrigation system distribution uniformity of 85 percent.

- Install a separate water meter (or submeter), flow sensor, and master valve shut-off for irrigated landscape areas totaling 5,000 square feet and greater.
- Use water efficient landscaping such as proper hydro-zoning.
- Use landscape contouring to minimize precipitation runoff.
- Use artificial turf for the proposed Event Center playing surface.
- For irrigation systems: Install purple piping and associated connections (i.e., reclaimed water infrastructure) to the property line for potential future connection to LADWP reclaimed water supply, pending confirmation of water chemical profile for acceptable use.

Water Performance

- Install, at minimum, whole building water meters that measure total potable water use for the entire building. Install submeters on cooling towers and irrigation subsystems per above.

b. Mitigation Measures

Mitigation Measure K.1-1: Prior to issuance of a certificate of occupancy, the Proposed Project shall coordinate with the City of Los Angeles Department of Water and Power for the anticipated upgrade of the existing 8-inch water main located on the south side of Pico Boulevard between L.A. Live Way and Figueroa Street to a 12-inch water main in accordance with all applicable City standards.

6. Level of Significance After Mitigation

With the implementation of the project design features and mitigation measure identified above, Project-level and cumulative impacts on water supply and water infrastructure would be less than significant.