IV. ENVIRONMENTAL IMPACT ANALYSIS
J. UTILITIES
1. WATER

This Section describes the utility supply and infrastructure that currently serve the Project Site and surrounding area, assesses potential impacts associated with the Project on this supply and infrastructure, and identifies the need for improvements in order to serve the Project and related development, if needed. Each utility issue is discussed in its own subsection (1, Water; 2, Sewer; 3, Solid Waste; 4, Electricity Supply; and 5, Natural Gas Supply).

Organization of the Water Subsection

ii) LEED Certification

iii) Water Treatment Facilities

iv) Water Supply, Infrastructure, and Fire Flow

4. CUMULATIVE IMPACTS

5. MITIGATION MEASURES

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

1. INTRODUCTION

The information in this subsection is summarized from the following document, which can be found in Appendix IV.J-1:

- *Water System Technical Report*, prepared by Psomas, July 2008.

2. ENVIRONMENTAL SETTING

a) Regulatory Setting

California Water Code Sections 10910 through 10915 require counties and cities to consider the availability of adequate water supplies for certain new large developments projects. These statutes require cities and counties to obtain written verification of sufficient water supply to serve proposed large development projects in their jurisdiction from the local water supplier. Pursuant to the Water Code, projects that must obtain a "Water Supply Assessment" include the following:

- a proposed residential development of more than 500 dwelling units;
- a proposed shopping center or business establishment of more than 500,000 square feet of floor space or employing more than 1,000 persons;
- a proposed commercial office building of more than 250,000 square feet of floor space or employing more than 1,000 persons;
- a proposed hotel or motel of more than 500 rooms;
- a proposed industrial, manufacturing, or processing plant or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons;
- a mixed-use project that falls in one or more of the above-identified categories; or
- a project not falling in one of the above-identified categories but that would demand water equal or greater to a 500 dwelling-unit project.

b) Municipal Water Conservation

As discussed in the City of Los Angeles Department of Water and Power's (DWP) *2005 Urban Water Management Plan* water use in the City of Los Angeles (the City) is currently approximately equal to water use 20 years ago despite an over 750,000-person population increase during this period.[1] Despite the fact that the City's population has been slowly increasing, water consumption levels have remained relatively steady. This stability in water use is largely attributed to the City's public education campaigns and water conservation programs over the past 15 years. In addition to conformance with the Water Code, discussed previously, DWP has instituted its own City-level water conservation measures, including the following:

- "Water Closet, Urinal and Showerhead Regulations" (Los Angeles Municipal Code [LAMC] Sections 122.00–122.10) – Reduces water consumption by requiring new buildings to include water conservation fixtures (such as ultra-low-flush toilets, urinals, taps, and showerheads) and plumbing fixtures that reduce water loss from leakage in order to obtain City building permits. In addition, there are provisions requiring xeriscaping (i.e., the use of low-maintenance, drought-resistant plants).
- "The Emergency Water Conservation Plan of the City of Los Angeles" (LAMC Sections 121.00-121.13) – Provides for the implementation of a Citywide phased water conservation program to respond to dry weather periods based on the DWP's evaluation of the projected supply and demand of City water supplies. The phased conservation program provides for mandatory water conservation measures at the user level and customer use curtailment of normal water usage.
- Ordinance 170,978, enacted in July 12, 1996, involves a comprehensive landscape ordinance that applies to all projects that create 2,000 square feet or more of non-permeable surface, except single-family dwellings. This ordinance replaced the City's original requirement for xeriscape with "Water Management." The xeriscape point system chart has been slightly augmented by increased choices as well as requiring projects to propose and document substantive water conserving features and techniques.

In recent years, conservation has become an important aspect of water supply planning. The City's current total water consumption is nearly equal to that of 20 years ago, despite an increase of approximately 700,000 people during the same time period. DWP attributes the savings in water consumption to the City's successful water conservation measures.

DWP is also continuing its water recycling efforts to further reduce the demand for imported water. Currently, almost 65,000 acre-feet per year (AFY) of the City's wastewater is recycled. Approximately 1,950 AFY of recycled water is used for municipal and industrial purposes; 28,000 AFY of recycled water is used for environmental enhancement and recreation in the Sepulveda Basin; and approximately 34,000 AFY of recycled water is sold to the Metropolitan Water District of Southern California (MWD),

[1] *City of Los Angeles, Department of Water and Power, 2005 Urban Water Management Plan, pages 1-5.*

which then provides further treatment to meet demands within its service area.[2] DWP also released a Water Supply Action Plan, described in more detail later in this section that outlines the City's efforts to secure future water supply by increasing its water recycling and conservation efforts.

c) Existing Conditions

i) Regional

DWP has complete charge and control of its distribution system inside the City under the provisions of the City Charter. DWP's Water Operating Division, under authority extended by the Board of Water and Power Commissioners, owns, operates, and maintains all water facilities within the City and is responsible for ensuring that the delivered water meets all applicable state quality standards. The Project Site is located entirely within the City, and as such, DWP is the water provider to the Project Site.

The California Urban Water Management Planning Act requires every municipal water supplier who serves more than 3,000 customers or provides more than 3,000 AFY)of water to prepare an Urban Water Management Plan (UWMP) every five years to identify shot-term and long-term water resources management measures to meet growing water demands during normal, dry, and multiple-dry years. In an UWMP, the water supplier must describe the water supply projects and programs that may be undertaken to meet the total water use of the service area. DWP has prepared a 2005 UWMP that includes estimates of past, current, and projected probable and recycled water use, identifies conservation and reclamation measures currently in practice, describes alternative conservation measures, and provides an urban water shortage contingency plan. DWP's UWMP relies on the Southern California Association of Governments' (SCAG) projections of regional population growth. As described in Section IV.N, Population and Housing, the Project is consistent with SCAG's projections.

DWP supplies an annual average of 215 billion gallons of water, with an average per person use of 155 gallons per day. DWP relies upon a complex water system network that delivers water from the eastern Sierra Nevada watershed (via the first and second Los Angeles Aqueduct), the Sacramento and San Joaquin Rivers (via the California Aqueduct), and the Colorado River (via the Colorado River Aqueduct). In an average year, the DWP water system draws 50 percent of its water from the eastern Sierra Nevada and purchases 34 percent from MWD. Water pumped from groundwater wells in the San Fernando groundwater basin (the "Basin") provides an additional 15 percent. Supplementing these sources, DWP uses recycled water for industrial and irrigation purposes, presently representing about 1 percent of the total supply.[3]

The Project Site is in the Upper Los Angeles River Area (ULARA). The ULARA encompasses 328,500 acres comprised of 122,800 acres of groundwater basin (commonly referred as valley fill) and 205,700 acres of hills and mountains. Approximately 90 percent of the City groundwater supplies are extracted

---

[2] *Ibid, page ES-8.*

[3] *Los Angeles Department of Water and Power, 2005 Urban Water Management Plan.*

from the ULARA region. The ULARA has four groundwater basins: San Fernando; Sylmar; Verdugo and Eagle Rock. The water in these basins is separate and replenished by deep percolation from rainfall, surface runoff, and from a portion of the water used (mainly from irrigation) within these basins. The Project Site is located in the northeast corner of the eastern Santa Monica Mountains along the southern edge of the Basin, the largest of the four basins. The Basin is a natural groundwater basin that encompasses a surface area of approximately 112,000 acres (192 square miles) and comprises 91.2 percent of the total valley fill.

DWP has 64 active wells that manually deliver approximately 92,400 AFY or 15 percent of the city's total water needs, over the last 10 years. The local groundwater supply is a key resource DWP utilizes to provide a high degree of reliability. Primarily located in the San Fernando Basin, local groundwater provides a reserve that may be used as insurance against droughts or emergencies. DWP plans to continue maximizing production from its groundwater basins in the coming years to offset any potential reductions in imported supplies, such as supplies from MWD. Significant investments on water quality improvement measures are being made to maintain the reliability of groundwater supplies. DWP is considering several projects to further enhance the utility of groundwater resource in conjunction with its water recycling program.

In addition to the local groundwater sources used throughout the City, DWP operates the Los Angeles-Owens River Aqueduct and is a member of MWD. The three sources of water for the City (groundwater, Los Angeles-Owens River Aqueduct, and MWD-imported supply) provide the water to meet the City's water supply needs. According to recent projections from DWP, the City's water demand projection for 2010 is 683,000 AFY, based on normal weather conditions.[4] Approximately 80 percent of this demand will be met by the City's aqueducts and local sources (groundwater and recycled water). The remaining approximately 20 percent will be provided from the City's MWD entitlement. The City's projected water demand for 2030 is 776,000 AFY.

The City also supplies recycled water for landscaping and industrial uses throughout Los Angeles. The City treats wastewater at its Los Angeles-Glendale and Donald C. Tillman Water Reclamation Plant to tertiary levels and then distributes the water to users for landscaping and industrial uses. The use of recycled water reduces the demand for domestic water in the area.

ii) MWD and DWP Plans for Future Water Supplies

(1) MWD of Southern California

MWD is the largest water wholesaler for domestic and municipal uses in southern California. As one of 26 member agencies, DWP purchases water from MWD to supplement DWP supplies from local groundwater and the Los Angeles Aqueduct (LAA). MWD imports its water supplies from northern California through the State Water Project's (SWP) California Aqueduct, operated by the California Department of Water Resources (DWR), and from the Colorado River through MWD's own Colorado

[4] *Ibid.*

River Aqueduct. Each of these sources is described below, along with efforts by MWD to diversify its sources of supply and increase storage of water within its service area to enhance the reliability of its two main sources. DWP will continue to rely on MWD to meet its current and future supplemental water needs.

All 26-member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of the MWD Act:

> *"Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purposes, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense."*

This is known as a preferential right. Under the preferential rights system, the City is entitled to approximately 22 percent of MWD's water supply.

DWP has worked with MWD in developing a framework for allocating water supplies during periods of shortage as well as surplus. MWD has a Water Surplus and Drought Management Plan that provides such a framework. DWP intends to work within the framework established through the Water Surplus and Management Plan in acquiring its drought supplies from MWD in the future.

Even during shortages, MWD expects that it will be able to meet its member agencies' long-term needs through a combination of actions, including water-transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. Additionally, MWD has more than approximately 3.8 acre-feet (AF) of storage capacity available in reservoirs and banking/transfer programs.

(a) Overview of MWD Water Supplies

Based on the water supply planning requirements imposed on its member agencies and ultimate customers, such as the requirements to adopt UWMPs, water supply assessments and written verifications, MWD has adopted a series of official reports on the state of its water supplies. As described below, MWD has consistently stated that its water supplies are fully reliable to meet the demands of its customers, in all hydrologic conditions through at least 2030.

In March 2003, MWD published a document titled the *Report on Metropolitan Water Supplies: A Blueprint for Water Reliability* (Blueprint Report). The objective of the Blueprint Report was to provide member agencies, retail water utilities, cities, and counties within the MWD service area with information that may assist in their preparation of UWMPs, water supply assessments, and written verifications. The

Blueprint Report stated that the approach taken to evaluate water supplies and demands was consistent with MWD's 2000 Regional UWMP. MWD utilized SCAG's regional growth forecast in calculating regional water demands for its service area, the same method used by DWP in its 2005 UWMP. Thus, MWD considered the water demands of the DWP in the Blueprint Report.

The Blueprint Report fully discusses MWD's historical and projected deliveries of Colorado River and SWP water. The conclusion of the Blueprint Report and supplemental information published by MWD, such as its Integrated Resources Plan Update and annual Implementation Reports, is that with its current water supply portfolio and planned actions, MWD will have sufficient water to deliver to DWP to meet all of the water demands in the DWP service area for the next 20 years.

By comparing total projected water demands and conservatively estimating water supplies over the next 20 years, MWD has found that if its supply programs were implemented under its Integrated Resource Plan "[b]ased on water supplies that are currently available, Metropolitan already has in place the existing capability to…[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) over the next 20 years" in average, wet, multiple dry years, and single dry years.[5] In multiple dry years, MWD reports that it will "[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst multiple-year drought event over the next 15 years,"[6] while in a single dry year it can "[m]eet 100 percent of its member agencies' projected supplemental demands (consumptive and replenishment) even under the repeat of the worst single-year drought event over the next 15 years."[7] MWD's additional reserve supplies will provide a "'margin of safety to guard against uncertainties in demand projections and risks in fully implementing all supply programs under development."[8]

Table IV.J-1 shows MWD's projected supply and demand under normal, dry and multiple-dry years. DWP has provided significant input to MWD in developing this analysis, which includes the City's projected water requirements from MWD. In fact, MWD's projections are 6 to 16 percent higher than member agencies projections. This difference indicates that MWD's supplies provide a level of margin of safety or flexibility to accommodate potential delays to planned projects.

The findings in the water supply assessment prepared for the Project were developed based on MWD's stated ability to reliably provide water to DWP. Furthermore, based on MWD's current long-term water resources outlook, DWP does not anticipate the need to formally invoke preferential rights over the next 20 years.

---

[5] *Report on Metropolitan Water Supplies: A Blueprint for Water Reliability, March 2003, (Blueprint Report), p. 24-25.*

[6] *Id.*

[7] *Id. at 25.*

[8] *Id. at 23.*

Table IV.J-1
MWD Supply and Demand Forecast

	Normal Year				Single Dry Year				Multiple Dry Year			
	2005	**2010**	**2015**	**2020**	**2005**	**2010**	**2015**	**2020**	**2005**	**2010**	**2015**	**2020**
Current Supplies												
Colorado River	0.695	0.222	0.719	0.707	0.721	0.833	0.833	0.833	0.721	0.833	0.833	0.833
California Aqueduct	1.781	1.783	1.724	1.715	0.997	0.997	0.822	0.822	1.290	1.376	1.146	1.120
In-Basin Storage	-	-	-	-	0.730	0.790	0.788	0.758	0.455	0.532	0.530	0.513
Supplies Under Development												
Colorado River	0.322	0.229	0.261	0.350	0.209	0.231	0.417	0.417	0.167	0.417	0.417	0.417
California Aqueduct	0.020	0.065	0.220	0.220	0.020	0.195	0.390	0.390	0.020	0.195	0.390	0.390
In-Basin Storage	-	-	-	-	-	0.089	0.200	0.200	-	0.089	0.200	0.200
Supply	**2.818**	**2.812**	**2.924**	**2.995**	**2.678**	**3.135**	**3.450**	**3.420**	**2.654**	**3.442**	**3.517**	**3.473**
Demand	**1.970**	**1.887**	**2.055**	**2.274**	**2.189**	**2.096**	**2.267**	**2.488**	**2.245**	**2.176**	**2.321**	**2.534**
Potential Reserve	**0.848**	**0.926**	**0.889**	**0.721**	**0.506**	**1.039**	**1.184**	**0.932**	**0.603**	**1.266**	**1.196**	**0.939**

Notes: Figures are from the Blueprint Report.
Units are in million AF per year.
Supply represents expected supply capability for resource programs.
Demand is based on SCAG 98 RTP, SABDAG 1998 forecasts and member agency projections of local supplies.

Based on the Blueprint Report, MWD anticipates the following future water supplies:

Colorado River Aqueduct Deliveries:

Available by 2005: Basic Apportionment (Priority 4);
IID/MWD Conservation Program;
Priority 5 Apportionment;
Coachella & All-American Canal Lining Projects; and
Off Aqueduct Storage:
- Hayfield Storage Program; and
- Central Arizona Banking Demonstration Program.

Under Development: IID/MWD Conservation Program (Including Coachella Option):
Interim Surplus Guidelines;
IID/SDCWA Transfer;
PVID Land Management Program; and
Off-Aqueduct Storage/Transfer Programs:
- Lower Coachella Valley Groundwater Storage Program;
- Chuckwalla Storage Program; and
- Central Arizona Banking Program.

California Aqueduct Deliveries:

Available by 2005: SWP Deliveries;
San Luis Reservoir Carryover Storage;
Advance Delivery with Coachella Valley WD and Desert WA;
Semi tropic Water Banking and Exchange Program;
Arvin-Edison Water Management Program;
San Bernardino Valley MWD Program;
Kern Delta WD Program; and
Market Transfer Options,

Under Development: Delta Improvements (CALFED Implementation).

Additional Transfers/Storage (San Bernardino Conjunctive Use Program, Westside Valley Transfers, and Eastside Valley Transfers).

In-Basin Storage Deliveries:

Available by 2005: MWD Surface Storage (DVL, Lakes Matthews and Skinner);
Flexible Storage in Castaic Lake and Lake Perris; and
Groundwater Conjunctive Use Programs:
- Long-Term Seasonal Storage Programs; and
- North Las Posas Storage Program.

Under Development: Groundwater Conjunctive Use Programs:
- Raymond Basin Storage Programs;
- Proposition 13 Storage Programs; and
- Additional Programs.

Summaries of MWD's individual supplies, along with the challenges facing each supply, are presented below. These sections also include 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) The Colorado River

MWD diverts water from the Colorado River at Lake Havasu on the California/Arizona border and conveys it across the Mojave Desert via the agency's Colorado River Aqueduct to Lake Mathews near Riverside. From there, MWD pumps the water into its feeder pipeline distribution system for delivery to its member agencies throughout southern California.

MWD possesses the right to divert water from the Colorado River pursuant to a contract with the U.S. Secretary of the Interior under Section 5 of the federal Boulder Canyon Project Act. The Blueprint

Report includes a description of MWD's 550,000 AFY base apportionment water right, along with the Colorado River supply projects that MWD is implementing to maximize the reliability of Colorado River supplies. Following distribution of the Blueprint Report, a Quantification Settlement Agreement (QSA) and other related agreements were approved on October 10, 2003. These agreements address the supplies of all California users of Colorado River water, including MWD. Signing of the QSA and related agreements will allow implementation of the Colorado River supply projects identified in the Blueprint Report, as well as other projects. MWD described the QSA and related agreements and their impact on the reliability of MWD's supplies in its 2006 Integrated Water Resources Plan Implementation Report.

According to MWD, it is expected that its fourth priority apportionment of 550,000 AFY of Colorado River water will be available every year for the next 20 years. This supply is "expected to be available during all year types, including wet, average, single dry-year, and multiple dry-year weather."

Current challenges facing MWD's Colorado River supply include risk of continued drought in the Colorado River Basin and pending litigation that may threaten implementation of part or all of the QSA. MWD has been aggressively preparing for these two risks to its Colorado River supply for many years. Its responses to these challenges are described in detail below.

The Colorado River Basin has experienced below-normal runoff in recent years. During 2006, Lake Mead was at its lowest level in 41 years. As a result, the U.S. Bureau of Reclamation has proposed shortage guidelines that would introduce new operating and accounting procedures to address the ability of MWD and others to store water in Lake Mead. However, despite the challenges of recent Colorado River Basin hydrology, MWD "does not anticipate adverse water supply impacts resulting from the implementation of [the] shortage guidelines because California's 4.4 million AF apportionment has a higher priority than a portion of Arizona and Nevada's apportionments during shortage conditions."

Programs that will help to implement the QSA and meet Colorado River water supply targets and that are currently in operation, close to completion or in progress include: the Imperial Irrigation District ("IID") and MWD water conservation and transfer program; the Coachella and All-American Canal lining projects; the IID and San Diego County Water Authority (SDCWA) water transfer; the Palo Verde Irrigation District land management and crop rotation program; and the Interim Surplus Guidelines adopted by the U.S. Secretary of the Interior. MWD is actively working to implement several of these QSA-related programs. In addition, MWD is participating in the "Intentional Created Surplus" program to store water in Lake Mead for withdrawal during dry years. During 2006 and 2007, MWD stored 50,000 AF of water in Lake Mead that it had saved under the Palo Verde Irrigation District Land Management and Crop Rotation Program. Collectively, these programs are expected to maintain the reliability of MWD's Colorado River supplies.

MWD's fourth priority apportionment of Colorado River water has been delivered to MWD every year since 1939, in all hydrologic year types. By existing contract, this supply "will continue to be available in perpetuity" due to California's senior rights on the Colorado River. MWD has affirmed that "[t]he historical record for available Colorado River water indicates that Metropolitan's fourth priority supply has been available in every year and can reasonably be expected to be available over the next 20 years."

Thus, according to MWD, its Colorado River supply is secure through at least 2025. Pursuant to the analysis in more recent MWD assessments of its water supplies and this WSA, there are no substantial challenges that are currently predicted to arise between 2025 and 2030. Therefore, the same reliability that MWD declared through 2025 is also applicable through 2030.

The second challenge to MWD's Colorado River supplies is the pending litigation concerning the QSA and related agreements. That litigation has taken two forms: (1) a series of lawsuits against the lining of the All-American Canal; and (2) a series of lawsuits that challenge the IID/SDCWA transfer. The All-American Canal litigation has been litigated and resolved in favor of the QSA parties thus, increasing the certainty of MWD's Colorado River supplies since the publication of the Blueprint Report.

Several lawsuits against the IID/SDCWA transfer were brought by the County of Imperial, various landowners within IID, and environmental advocacy groups, and have been consolidated in Sacramento County Superior Court. In two of those lawsuits, the County of Imperial sued the State Water Resources Control Board (SWRCB), IID, and SDCWA regarding the legitimacy of the QSA approvals. In November 2004, the Superior Court dismissed those cases with prejudice on the ground that the County had failed to name MWD and the Coachella Valley Water District as necessary and indispensable parties to the actions on a timely basis. The County appealed that decision and the Court of Appeal affirmed the dismissal in 2007 that lifted a stay on the other QSA cases. In addition, several demurrers have been filed and sustained in the consolidated cases, reducing the number of causes of action pending in the litigation. The water transfer challengers have filed motions for preliminary injunction that have been opposed by MWD and the other QSA parties.

Although all significant issues in the QSA litigations have been resolved in favor of MWD and the other QSA parties to date, including the entire All-American Canal case, it is impossible to predict with absolute certainty how the remaining litigation will be resolved. MWD is actively involved in the litigation and plans to defend the QSA fully to prevent any impacts to its Colorado River supplies.

Consistent with the QSA, MWD has developed a number of water supply programs to supplement its basic apportionment of Colorado River water, including agricultural water transfers and storage programs. Current programs will provide MWD with approximately 1.13 million AF by 2020. Proposed programs could add another 300,000 AFY. Table IV.J-2 summarizes MWD's Colorado River Aqueduct supply by 2020.

Table IV.J-2
MWD's Colorado River Aqueduct Supplies: 2020 – 2030

Supply Source	Description	Project Status	Annual Deliveries (AFY)
Basic Apportionment	MWD's basic apportionment of Colorado River water.	Current	503,000
IID/MWD Conservation	Imperial Irrigation District (IID) and MWD are parties to a long-term water conservation and transfer agreement. Pursuant to the agreement, MWD pays the costs of water conservation measures in exchange for conserved water.	Current	85,000
Coachella & All American Canal Lining Projects	The Coachella Canal Lining Project was completed in December 2006, when 26,000 AFY of conserved water began flowing to project beneficiaries. The All-American Canal Lining Project began construction in June 2007. This project will be completed in 2010 and will conserve 67,700 AFY of water.	Current	78,000
SDCWA/IID Transfer & MWD/SDCWA Exchange	San Diego County Water Authority (SDCWA) and IID are parties to a water transfer agreement, pursuant to which, beginning in 2003, IID began making transfers to SDWCA. The transfer volumes will increase in accordance with an annual build-up schedule, reaching 100,000 AFY by 2013 and stabilizing at 200,000 AFY in 2023. The water transferred to SDCWA is made available to MWD via an exchange agreement.	Current	200,000
PVID Land Management Program	Palo Verde Irrigation District (PVID) and MWD are joint participants in a long-term land management, crop rotation, and water supply program. Pursuant to the program, participating farmers in PVID are paid to reduce their water use. The water savings are made available to MWD.	Current	111,000
Hayfield Groundwater Storage	MWD authorized the Hayfield Groundwater Storage project in April 1999. It is estimated that the Hayfield aquifer can hold up to 500,000 AF of additional water.	Current	150,000
		Subtotal	1,127,000
Lower Coachella Storage Program	MWD has identified the Lower Coachella Groundwater Basin as a feasible location for conjunctive use storage. It has the potential to provide up to 500,000 AF of storage capacity.	Under Development	150,000
Chuckwalla Storage Program	MWD is investigating the Chuckwalla Groundwater Basin as a possible location for off-stream storage of CRA supplies. It is estimated that the basin could hold up to 500,000 AF of water.	Under Development	150,000

Sources: DWP, Urban Water Management Plan (2005), at 3-32; MWD, Regional Urban Water Management Plan (2005), at A.3-1 through A.310; SDCWA, Fact Sheet re QSA (August 2007).

To further ensure reliability of Colorado River supplies, on April 8, 2008, MWD's Board of Directors authorized $28.7 million to join agencies in Arizona and Nevada in funding construction of a new reservoir that will save up to 228 billion gallons of water per year. In return for its funding, Metropolitan will receive 100,000 acre-feet of water, including up to 34,000 acre-feet this year that will be created though construction and operation of the Drop 2 Reservoir, adjacent to the All American Canal in Imperial County.[9] This water could be fully recovered within three years, and any portion of the water not recovered remains in MWD's credit account through 2036 and would not be reduced because of reservoir evaporation loss or spill.

Based on the foregoing, MWD expects that it will continue to be able to provide a reliable water supply via the Colorado Aqueduct. In reaching this conclusion, MWD has taken into consideration various hydrologic conditions that may occur in the Colorado River Basin as well as the competing rights and priorities to use the water.

d) State Water Project

MWD possesses a contract with DWR that entitles it to water from the SWP.[10] MWD's share of the total SWP supply is approximately 46 percent.[11] This supply is diverted from the Feather River at Lake Oroville, released and conveyed through the Sacramento-San Joaquin River Delta (Delta) and rediverted at the Harvey O. Banks Delta Pumping Plant for conveyance through the California Aqueduct to Southern California and MWD. MWD described and analyzed the reliability of its SWP supplies in the Blueprint Report.[12] MWD estimated the availability of SWP supplies "according to the historical record of hydrologic conditions, existing system capabilities, requests of the state water contractors and SWP contract provisions for allocating Table A, Article 21 and other SWP deliveries to each contractor."[13] MWD estimated that in 2025, it will have 794,700 AF available in multiple dry years, 418,000 AF in a single dry year, 1,523,300 AF in an average year and 1,741,000 AF in a wet year.[14]

---

[9] *See Metropolitan Partners with Arizona, Nevada to Fund Construction of a New Reservoir, Add to Colorado River Flexibility, MWD News Release, April 8, 2008, available at http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2008-04/Drop%202%20Reservoir.pdf.*

[10] *See Contract Between the State of California Department of Water Resources and the Metropolitan Water District of Southern California For a Water Supply (November 4, 1960), as amended through Amendment No. 28, available at http://www.swpao.water.ca.gov/wsc/pdfs/MWDSC_O_C.pdf.*

[11] *MWD, 2006 Integrated Water Resources Plan Implementation Report, at 14 (October 10, 2006).*

[12] *Blueprint Report at 11.*

[13] *Id at 11.*

[14] *Id. MWD's contract with DWR expires in 2035, at which time MWD has an option to renew under the same basic conditions. MWD's 2005 UWMP at A.3-12.*

Following the Blueprint Report, SWP supplies have been challenged through environmental litigation concerning the Delta. In addition, MWD has acknowledged that conveyance of water through the Delta can present challenges for SWP supplies due to water quality and environmental issues that can affect pumping operations. Risks to this supply also include potential levee failure. Actions being taken by DWR and MWD to avoid or mitigate these risks are described below.

e) Environmental Litigation

Specific threats to the SWP include litigation concerning the Delta. In 2007, two courts ruled that California's major water delivery systems, the SWP and the Central Valley Project (CVP), were violating state and federal environmental laws regarding a threatened fish species, the Delta smelt. First, Alameda County Superior Court Judge Roesch concluded that the SWP had failed to obtain a permit required under the California Endangered Species Act (CESA) that would provide protections for Delta smelt, salmon, and steelhead from the effects of water pumping for activities at the Harvey O. Banks Delta Pumping Plant in Tracy, California.[15] Accordingly, Judge Roesch ordered the SWP pumps to be turned off unless appropriate permits were obtained within 60 days. As a practical response to the pending litigation in State and federal courts, the DWR shut down the Harvey O. Banks Delta Pumping Plant from May 31 to June 10, 2007 to protect the Delta smelt. DWR resumed pumping at normal operating levels on June 10, 2007 but has since reduced pumping capacity due to the increased salvage of adult smelt at the pumping plant.[16]

In May 2007, U.S. District Court Judge Oliver Wanger ruled that a federal Endangered Species Act (ESA) take permit that had been issued to protect Delta smelt at both the SWP pumps and the federal Jones Pumping Plant was not legally sufficient.[17] By the time this decision was released, the SWP and CVP water agencies were aware that the incidental take permit was not preventing take of Delta smelt and had requested a new permit. In August 2007, Judge Wanger issued an interim oral decision that allowed the SWP and CVP to continue operating under the prior take permit as long as they complied with a USFWS-proposed five-point action matrix with a few modifications, plus certain increased monitoring plans requested by the plaintiffs and other actions that do not have a water cost. The court pieced together certain operational restrictions that vary depending on fish, weather and flow conditions in the Delta, as well as how curtailments are divided between state and federal projects.

DWR has anticipated that in an average year, when combined deliveries of the CVP and SWP would be 5.9 million AF, reductions in deliveries due to compliance with the USFWS matrix will range from

---

[15] *Watershed Enforcers v. California Department of Water Resources, Case No. RG06292124. Order (Alameda County Sup. Ct. March 22, 2007).*

[16] *See DWR News Release, DWR Announces New Delta Pumping Cutbacks, March 13, 2008, available at: http://www.water.ca.gov/news/newsreleases/2008/031308delta.pdf.*

[17] *Natural Resources Defense Council v. Kempthorne, 506 F.Supp.2d 322 (E.D.Cal. 2007).*

820,000 to 2.17 million AF, which represent 14 and 37 percent of baseline deliveries, respectively.[18] In a dry year, when combined deliveries would be 3.2 million AF, reductions will range from 183,000 to 814,000 AF, which represent reductions from baseline deliveries of 6 and 25 percent, respectively. The modifications to the USFWS matrix by Judge Wanger will increase the delivery reductions by an amount that was not modeled by DWR, but it is expected that the actual impacts of Judge Wanger's order may be slightly greater than those figures. DWR estimates that its water deliveries will be reduced up to 30 percent this year as a result of the court order.[19]

Judge Wanger's order will impact diversions from December 25, 2007 until the new USFWS Biological Opinion (BiOp) is issued in approximately September 2008. However, it should be expected that the USFWS will include similar restrictions in the final BiOp to those that were in its action matrix adopted by Judge Wanger. Thus, the SWP and CVP will likely see long-term reductions in deliveries based on this litigation. Among other results, the decision likely will increase the political pressure for construction of the Peripheral Canal to avoid use of the south Delta pumping plants. In response to this decision and other water supply and quality issues, MWD has reported that "[i]n the short and long term, continued investment in regional and local resources will help ensure and diversify reliable water supplies to meet Southern California's future needs."[20]

f) Mitigation of Risks Posed by Environmental Litigation

MWD has embarked on many proactive programs to deal with potential future delivery restrictions as described above, should they occur. For example, MWD is one of the parties that are drafting the Bay-Delta Conservation Plan (BDCP) to provide State and federal ESA coverage for its SWP operations. The BDCP allows water contractors, who must comply with the federal and State ESAs, to work cooperatively to attain incidental take coverage via a habitat conservation plan and natural community conservation plan. Development of this plan is now underway under the aegis of the California Resources Agency, with the appropriate permits and completion of an environmental impact statement/impact report (EIS/EIR) expected in late 2009. The NOP for the BDCP EIS/EIR was recently circulated for public comment on March 17, 2008.

MWD is also focusing on voluntary Central Valley storage and transfer programs to bank MWD's SWP water supplies. In its 2006 Integrated Water Resources Plan Implementation Report, MWD reported that "492,000 acre-feet of dry-year yield has been developed in Central Valley storage and transfer programs"

---

[18] *DWR, Comparison of the Water costs Associated with the Proposed Remedy Acts, Table produced from John Leahigh Supplemental Declaration Filed August 3, 2007 in Natural Resources Defense Council v. Kempthorne, 506 F.Supp.2d 322 (E.D.Cal. 2007).*

[19] *DWR News Release, DWR Announces New Delta Pumping Cutbacks, March 13, 2008.*

[20] *See Metropolitan Looks to Statewide Water Market to Secure Supply Insurance in the Face of Uncertainties, MWD News Release, November 20, 2007, available at http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2007-11/water_transfers.pdf.*

and "potential partners and programs have been identified to meet IRP targets."[21] This flexibility will assist MWD in addressing shortages due to drought or court-imposed cutbacks to protect Delta smelt. Further, MWD has employed conjunctive use programs which utilize groundwater basins to store water during wet seasons, which provides a buffer supply that MWD can extract during dry periods. In 2006, MWD developed groundwater storage capable of providing 135,000 AF of dry year supply.[22] MWD continues to seek additional opportunities in southern California to expand groundwater conjunctive use storage programs.[23]

g) Delta Vision Process

The State is actively studying the risk of levee failure and potential impacts to SWP supplies and developing a plan to protect the Delta. There are several concurrent processes for resolving these challenges. In the spring of 2006, at the recommendation of CALFED, an interagency effort that includes 23 state and federal agencies that have management or regulatory responsibility for the Delta, DWR began and completed a two-year Delta Risk Management Strategy (DRMS) to analyze risks to the levee system. Phase I included a discussion of the region's assets, existing problems with the system, the degree of risk that exists, and the potential consequences of multiple levee failures. Phase II addressed levee risk reductions. The DRMS reports was part of the Delta Vision Report submitted to the State Legislature and Governor in January 1, 2008.

Also as part of the Delta Vision process, in April, 2007, MWD released its Delta Action Plan. The Delta Action Plan calls for analyzing alternative strategies for reducing longstanding conflicts in the Delta and improving water reliability, water quality, levee stability, and the environment. The plan includes the following elements:

- Short-Term Action Plan. Actions over next 18 months to secure short-term permits for operating the State Water Project Banks pumping plant and avoiding incidental take of threatened or endangered species; implementing/funding a Delta Levee Emergency Preparedness and Response Plan; and selection and approval of key elements of the Bay-Delta Conservation Plan and long-term Delta Vision.
- Mid-Term Action Plan. Actions prior to a long-term Delta solution to secure long-term operating permits for the State Water Project under the Bay-Delta Conservation Plan; develop an implementation plan and environmental documentation for the preferred long-term Delta Vision; and implementation of early start "no regrets" ecosystem restoration projects.

---

[21] *MWD, 2006 Integrated Water Resources Plan Implementation Report, at 18 (October 10, 2006).*

[22] *Id at 20.*

[23] *Id at 21.*

- Long-Term Action Plan. Actions to fully implement, govern, and finance the elements of a long-term Delta Vision. These elements include water quality/supply infrastructure, Delta habitat protection and restoration, flood control and levees, and others.

On September 11, 2007, MWD clarified its position on the water supply conveyance element of the long-term Delta Plan to further enhance the Delta ecosystem, water quality, and water supply reliability. MWD's vision included water supply conveyance options that allow the greatest flexibility in meeting water demands by taking water where and when it is least harmful to migrating salmon and in-Delta fish species. The vision also focused on reducing longer-term risks associated climate change by placing intake locations that are able to withstand an estimated 1- to 3-foot sea-level rise in the next 100 years.

Following completion of the Delta Vision Report, the panel established by Governor Schwarzenegger began studying long-term strategic solutions for the conflicts in the Delta. That process, which will take place from January through December 2008, is a strategic planning stage that will assess alterative implementing measures and management practices to implement the Delta Vision recommendations. The final recommendations will include modifications to existing land uses and services in the Delta, and will assess governance, funding mechanisms, water resource uses and ecosystem management practices. The Delta Vision Committee will publish a public review draft of its Delta Strategic Plan by October 31, 2008 and submit the final plan to the Governor and Legislature by December 31, 2008.

In response to concerns over the integrity of the levee system, the state significantly increased the budget for levee repairs in 2006, and a $5.4 billion natural resources bond was approved by voters in November 2006 (Proposition 84), which assigns additional funds for flood control in the Delta and to plan for future water supplies. In 2007, both Governor Arnold Schwarzenegger and Senator Don Perata, the Democratic leader of the state Senate, began promoting multi-billion-dollar water bond measures to be placed on a Statewide ballot in 2008. As result, California voters could decide whether to approve billions of dollars to build new water projects, including a canal to divert water around the Delta, a program to protect the aging levees, funding for three new reservoirs, delta restoration, environmental restoration projects, water recycling, conservation, and other supply reliability projects. Initiative No. 07-0069, which authorizes $6.8 billion in bonds for water related projects, is currently pending signature verification by the California Secretary of State's office. Assuming the initiative is placed on the ballot and adopted by California voters, the bonds would allocate approximately 29% to statewide water supply reliability projects, including conservation, reclamation, distribution, storage, and restoration. Approximately 35% of the bonds would be allocated to Sacramento-San Joaquin delta sustainability projects including ecosystem improvements.

At the regional and local levels, numerous water decision-makers are actively addressing the threats facing the Delta. A review of MWD's resource development programs demonstrates that although SWP supplies are facing challenges and may become more expensive based on the cost of ultimately adopted solutions, MWD's adaptive planning framework, which includes conservation, in-region surface water storage, groundwater storage programs, and local water production within the MWD area, will allow MWD to adapt to changing conditions and ensure a reliable, diverse water supply to its members agencies that supply water to municipal customers. MWD has spent the past decade increasing the capacity of its

reservoirs and its overall water reserve is several times larger than it was during the 1991-1992 drought. Further, actions that are being taken by the CALFED process and the State should enhance reliability of the SWP supplies in the future. Both MWD and State agencies are aware of changing conditions that may impact the SWP and are planning accordingly to ensure a safe, reliable supply of SWP water.

h) Climate Change

As noted above, another source of water supply uncertainty is due to global climate change. Current literature suggests that global warming is likely to significantly impact the hydrological cycle, changing California's precipitation pattern and amount from that shown by the historical record. According to DWR, there is evidence that some changes have already occurred, such as an earlier beginning of snowmelt in the Sierras, an increase in water runoff as a fraction of the total runoff, and an increase in winter flooding frequency. More variability in rainfall, wetter at times and drier at times, would place more stress on the reliability of existing flood management and water supply systems, such as the SWP. Other uncertainties include future sea level rise associated with global climate change, which could increase salinity in the Delta and the risk of interruptions in SWP diversions from the Delta due to levee failures. As to estimating future demand for SWP water, DWR has identified uncertainty factors, including population growth, water conservation, recycling efforts, other supply sources, and global climate change. In addition to the above-identified factors affecting water delivery reliability, DWR has reported other limitations and assumptions, all of which are explained in the Draft State Water Project Delivery Reliability Report 2007. This report has also identified the status of four major concurrent Delta planning efforts that are underway with objectives related to providing a sustainable Delta over the long-term. These planning efforts may propose changes to SWP operations, which in turn could affect SWP delivery reliability. The planning efforts are the Delta Vision (described above), the Delta Risk Management Strategy, the CALFED Ecosystem Restoration Program Conservation Strategy, and the Bay-Delta Conservation Plan. According to DWR, each planning effort could affect SWP and CVP operations in the Delta, and each planning effort is explained in detail in the Draft State Water Project Delivery Reliability Report 2007.

i) Additional Actions to Mitigate Supply Risks

In addition to the actions described above that seek to avoid or mitigate risks facing the Colorado River or SWP individually, MWD also has several programs that address its overall supply reliability, as described in detail below.

Water Surplus and Drought Management Plan (WSDM). In 1999, MWD incorporated the water shortage contingency analysis that is required as part of any urban water management plan into a separate, more detailed plan, called the WSDM.[24] That plan provides policy guidance to manage MWD's supplies and achieve the goals laid out in the agency's Integrated Resources Plan. The WSDM also "identifies the

[24] *See Cal. Water Code §10632; MWD's Water Surplus and Drought Management Plan, Report No. 1150 at 1 (August 1999).*

expected sequence of resource management actions that [MWD] will execute during surpluses and shortages to minimize the probability of severe shortages and eliminate the possibility of extreme shortages and shortages allocations."[25] MWD's 10 year WSDM categorizes its ability to deliver water to its customers by distinguishing between surpluses, shortages, severe shortages and extreme shortages.[26] The WSDM's integration of management actions taken during times of surplus and shortages reflects MWD's belief that these actions are interrelated.

For example, MWD's regional storage facilities, such as Lake Skinner, Lake Mathews and Diamond Valley Lake, along with storage capacity available to MWD in Castaic Lake and Lake Perris, provide MWD with flexibility in managing its supplies.[27] MWD's storage supplies and existing management practices allow MWD to mitigate shortages without having to impact retail municipal and industrial demands, except in severe or extreme shortages.[28] MWD's 2005 UWMP shows its expected ability to meet demands in single dry years by water supply source. For example, in 2010 MWD expects to have 831,000 AF in potential reserve and replenishment supplies, primarily through in-basin storage.[29] In 2030, MWD estimates that it will have 716,000 AF in potential reserve and replenishment supplies.[30] Anytime MWD withdraws from storage to meet demands, it is considered to be in a shortage stage.[31] MWD has spent decades building up its storage reserves and groundwater management programs in order to prepare for a variety of shortage conditions. "Each [shortage] stage is associated with specific resource management actions designed to (1) avoid an Extreme Shortage to the maximum extent possible and (2) minimize adverse impacts to retail customers if an Extreme Shortage occurs."[32] MWD notes that the "overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage."[33]

In an actual shortage, MWD will take one or more of the following actions: (1) draw on storage out of reservoirs; (2) draw on out-of-region storage in the Semitropic and Arvin-Edison groundwater banks; (3) reduce or suspend long-term seasonal and groundwater replenishment deliveries; (4) draw on groundwater storage programs; (5) draw on SWP terminal reservoir storage; (6) call for voluntary

---

[25] *MWD 2005 UWMP at II-15.*

[26] *Id. at II-16.*

[27] *WSDM Plan at 20.*

[28] *Id. at 23.*

[29] *MWD 2005 UWMP at III-2.*

[30] *Id.*

[31] *Id. at II-16.*

[32] *Id.*

[33] *Id. at II-17*

conservation and public education; (7) reduce Interruptible Agricultural Water Program (IAWP) deliveries; (8) call on water transfer options contracts; (9) purchase transfers on the spot market; and (10) reduce imported supplies to its members agencies by an allocation method. [34]

MWD clarifies that this list is not in any particular order, "although it is clear that the last action [taken] will be the curtailment of firm deliveries to the member agencies."[35] If MWD were obligated to curtail firm deliveries, it would enforce these shortage allocations using rate surcharges.[36] For example, if deliveries exceed 102 percent of a customer's allotment, the customer will be assessed a surcharge. MWD's actions in 2007 are instructive in demonstrating how the WSDM Plan is implemented in practice.

Prior to the start of calendar year 2007, MWD estimated that water demands would exceed annual supplies (not including stored water) by approximately 300,000 AF.[37] In response, MWD took the following actions: (1) called for water stored in its Central Valley storage programs; (2) initiated replenishment cuts and notified participating agencies with in-basin groundwater storage programs; (3) embarked on a public outreach and media conservation campaign; and (4) announced reductions in IAWP agricultural supplies.[38]

Regarding reductions in agricultural water deliveries, before MWD imposes any restrictions on water, it will reduce deliveries of discounted agricultural supplies. In 1994, MWD established the IAWP to deliver surplus water for irrigation purposes at a reduced rate that is more affordable for certain sectors of the agricultural industry.[39] In exchange for the discounted rate, the MWD General Manager has the authority to reduce IAWP deliveries up to 30 percent before it imposes mandatory allocations to municipal and industrial retail customers under its WSDM.[40]

---

[34] *WSDM Plan at 23. Notably, the threat of water shortages was much greater in the late 1980s and early 1990s when the agency only had about 225,000 AF of water stored. Since then, MWD has increased its storage capacity significantly and today has more than 2.5 million AF of water stored around Southern California, including Diamond Valley Lake in Riverside County.*

[35] *Id.*

[36] *MWD 2005 UWMP at II-16 to II-17.*

[37] *Metropolitan Water District of Southern California, Water Surplus and Drought Management Plan at 3 (June 21, 2007) [Appendix J]. That figure did not include the risk of the SWP supply being restricted to protect Delta smelt, which in fact occurred.*

[38] *Id. at 4.*

[39] *MWD Administrative Code §4900 et seq.*

[40] *Id. at §4905.*

Due to dry conditions and the Delta smelt litigation in 2007 that may affect MWD's supplies, MWD will implement the water shortage actions which it outlined in its WSDM, which include a 30 percent reduction in IAWP deliveries. On October 9, 2007, MWD's Board of Directors announced that it will reduce IAWP deliveries over a 12-month calendar year beginning in January 2008.[41] At this time, MWD has stated that it will not reduce water purchased by its member agencies at the full service rate.[42]

MWD has announced a strategic approach for 2008 regarding its WSDM Plan. Besides exercising interruptions to the IAWP, MWD's major strategies are as follows:

- Continue conservation campaign;
- Maximize recovery of water from Central Valley storage and banking programs;
- Purchase additional supplies to augment existing supplies; and
- Develop and implement a shortage allocation plan.[43]

On February 12, 2008, MWD adopted a long-term Water Supply Allocation Plan that may require reductions of full service deliveries during periods of drought.[44] MWD has used several of these types of initiatives in the past (e.g., during the droughts of 1977-78 and 1989-92), which allowed the agency to meet the needs of its member agencies.[45] The plan serves as the final piece of the WSDM Plan and would allocate water based on member agency dependency on MWD supplies, while taking into account other local sources of supply. The plan relies on pricing to encourage agencies to reach their targeted allocated supplies. These "penalty rates" are similar to drought pricing used in many cities during the 1987-92 drought, calling for agencies to pay up to four times MWD's highest priced water, depending how far the agencies exceed their allocation. Any funds collected through penalty rates will be applied toward investments in conservation and local resources development.[46]

Integrated Resources Plan. MWD first adopted its IRP in 1996. The most updated IRP, which was adopted in 2004, discussed local water supply initiatives (e.g., local groundwater conjunctive use programs) and established a buffer supply to mitigate against the risks associated with implementation of

---

[41] *MWD Board of Directors Agenda Item 8-4 at 1 (October 9, 2007).*

[42] *Id. at Attachment 2 at 3.*

[43] *MWD's Water Surplus and Drought Management Plan Board Report at 4 (June 21, 2007).*

[44] *See Water Supply Allocation Plan Adopted by Metropolitan Board, MWD News Release, February 12, 2008, available at: http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2008-02/allocation_plan.pdf.*

[45] *2005 UWMP at 3-4.*

[46] *See Water Supply Allocation Plan Adopted by Metropolitan Board, MWD News Release, February 12, 2008.*

local and imported water supply programs.[47] The 2004 IRP noted that future water supply reliability depends not only upon actions by MWD to secure reliable imported supplies, but also further development of local projects by local agencies such as DWP (See discussion of DWP's Water Supply Action Plan, "Securing L.A.'s Water Supply," below).

On October 10, 2006, MWD released its 2006 Integrated Water Resources Plan Implementation Report (2006 Implementation Report) to report on progress toward implementing the targets from the 2004 IRP Update. The 2006 Implementation Report included a summary of each of MWD's water resource development categories: (1) conservation; (2) local resources; (3) Colorado River Aqueduct; (4) SWP supplies; (5) Central Valley storage and transfer programs; (6) in-region groundwater conjunctive use storage; and (7) in-region surface water storage. This recent report concluded that "while changes occur in all resource areas, Metropolitan is able to maintain supply reliability through its diversified water resources portfolio."[48]

MWD supported this conclusion by providing detailed updates for each of its resource categories, restating dry-year IRP targets and examining current considerations, changed conditions, implementation strategies and identified programs, implementation challenges and cost information. A brief summary of each of MWD's water resource development categories (other than the Colorado River and SWP supplies, which were discussed in detail in previous sections of this WSA) is provided below:

- *Conservation*: In 2006, MWD invested $10.6 million in conservation programs and initiatives, including executing a 10-year residential master conservation funding agreement with member agencies, encouraging the use of high-efficiency toilets, strengthening outdoor conservation programs and introducing new Industrial Process Improvement programs. In 2005-2006, MWD programs conserved approximately 762,000 AF, which was an increase of approximately 30,000 AF over the previous fiscal year. MWD's 2010 target for conservation savings is 865,000 AF.[49]
- *Local Resources—Recycling, Groundwater Recovery and Seawater Desalination*: MWD has invested $213 million with its member agencies to develop local resource programs. MWD contributed approximately $24.5 million toward the production of 127,000 AF of local resource production supplies in 2006, which is an increase of 16,000 AF from 2005. MWD's 2010 target for regional water recycling and groundwater recovery is 410,000 AF. Further, three desalination project agreements have been signed.[50]
- *Central Valley Storage and Transfer Programs*: MWD has developed significant water storage and transfer program partnerships in the Central Valley and has witnessed increased cooperation

[47] *MWD, Integrated Resources Plan Update (2004).*

[48] *MWD, 2006 Integrated Water Resources Implementation Report (2006).*

[49] *Id. at 5-6.*

[50] *Id. at 7-8.*

with DWR and federal agencies to facilitate water transfers. MWD continues to pursue transfers with Central Valley parties and has worked to improve existing storage programs with existing SWP storage partners.[51] For 2008, MWD is currently seeking to acquire up to 250,000 AF by temporary transfer from the Central Valley.

- *In-Region Groundwater Storage*: The 2006 Implementation Report identified that components of MWD's in-region groundwater storage program may not meet its 2010 dry-yield target of 275,000 AF. As of October 2006, groundwater storage had been developed to provide about 135,000 AF.[52] In response, MWD conducted a groundwater basin assessment to explore other groundwater storage opportunities. MWD's recent Groundwater Basin Assessment Study provided new information to focus on meeting this goal.[53] MWD will continue to develop new strategies for groundwater storage.[54]

MWD's 2007 Implementation Report demonstrates that the agency has continued to react aggressively to address challenges facing water resources.[55] By amending existing strategies, MWD has made significant progress in most resource areas toward meeting the IRP targets. For example, in fiscal year 2006-2007, MWD saved approximately 812,000 AF through conservation efforts and is expected to meet its 2010 target.[56] MWD's Board has taken a number of actions to strengthen conservation efforts, including:

- Program refinements; more options, streamlined administrative processes, upgraded and new incentives, and more standardization across programs to increase program participation;
- Expanded incentives; new incentives have been added to facilitate the installation of water conserving devices; grants and like funding from other agencies help expand incentive programs;
- New programs; novel programs like recently approved Public Sector Water Efficiency Partnership Demonstration Program (MWD's Board authorized $15 million for the Program) allows MWD to work with member agencies to save water through public agencies within MWD's service area that have high potential to achieve accelerated conservation or water recycling use.[57]

---

[51] *Id. at 19.*

[52] *Id. at 20.*

[53] *Id. at I-6.*

[54] *Id. at 22.*

[55] *MWD, 2007 Integrated Water Resources Implementation Report (2007).*

[56] *Id. at I-5.*

[57] *Id.*

Local resource production is expected to exceed the 2010 target of 426,000 AF based on current production and expansion of existing programs.[58] Existing supplies in Central Valley storage programs are also expected to exceed the 2010 target of 300,000 AF.[59] While in-region groundwater storage programs are currently falling short of MWD's 2010 IRP target, MWD is actively working to find new ways to meet this goal and the success of other programs, such as Central Valley storage, can avoid any negative impacts from failure to meet this single goal.[60] For example, MWD has already exceeded its 2010 target for dry-year surface water storage.[61] While SWP dry-year resources met FY 2006-2007 target level estimates (446,000 AF), the 2010 IRP target of 463,000 AF (or longer-term targets) are not projected to be met. However, MWD is actively seeking to resolve the risks associated with that supply, as discussed above.[62]

MWD's 2008 Implementation Report is scheduled for release in October 2008. In addition, MWD is currently planning to fully update the 2004 IRP itself scheduled for 2009. The updated IRP will address existing and new challenges such as the Delta smelt litigation and climate change.[63] As can be seen by these ongoing studies, MWD is continually updating its plans to meet ever-changing challenges to its water supplies.

j) Storage and Water Transfers

Since the completion of the first Integrated Resource Plan in 1996, MWD has developed and implemented a number of storage projects and water transfers. These projects and programs have been beneficial in ensuring MWD's reliability despite reductions in water deliveries. Below is a list of some of the significant projects and programs in MWD's portfolio:

- *Diamond Valley Reservoir*. An 800,000 AF surface reservoir used for drought and emergency situations.
- *Various Conjunctive Use Programs*. A variety of groundwater conjunctive use and groundwater storage programs have been or are being developed between MWD and its member agencies that will provide up to 275,000 AF of dry-year yield.

---

[58] *Id.*

[59] *Id. at I-6.*

[60] *Id.*

[61] *Id. at I-7.*

[62] *Id.*

[63] *Id. at I-3.*

- *Palo Verde Irrigation District Land Management Program*. A water transfer that can provide up to 111,000 AFY of supply for the Colorado River Aqueduct.
- *Hayfield Storage Program, Mojave Desert*. A groundwater conjunctive use project that can provide up to 150,000 AFY of supply for the Colorado River Aqueduct.
- *Arvin-Edison Program, Kern County*. A groundwater banking program that can provide up to 90,000 AFY to augment SWP supplies.
- *Semitropic Program, Kern County*. A groundwater banking and exchange program that can provide up to 107,000 AFY to augment SWP supplies.
- *San Bernardino Valley MWD Program*. A groundwater conjunctive use program that can provide up to 20,000 AFY.

A full list of MWD's storage projects and transfer programs is provided in MWD's 2003 IRP Update Report and MWD's 2005 Regional Urban Water Management Plan. Additional information is provided in MWD's 2007 Groundwater Assessment Study.

k) Summary of MWD Water Supply Reliability

MWD has engaged in significant water supply projection and planning efforts. As noted above, those efforts have included the water demands of the DWP service area and the Project in their projections. In its 2003 Blueprint Report and 2005 Regional Urban Water Management Plan, MWD has consistently found that its existing water supplies, when managed according to its water resource plans, such as the WSDM and IRP, are and will be 100 percent reliable for at least a 20-year planning period. Since publication of those reports, MWD has continued to implement its water supply programs, as reported in its 2006 and 2007 Implementation Reports, the latter of which was published on October 9, 2007. Although water supply conditions are always subject to uncertainties, MWD has maintained its supply reliability in the face of such uncertainties in the past, and is actively managing its supplies to ensure the same 100 percent reliability for the future.

i) DWP Water Supply Action Plan

In response to potential water supply uncertainties, including those impacting the MWD, the Mayor and DWP released a Water Supply Action Plan (Action Plan) on May 17, 2008. The plan, entitled "Securing L.A.'s Water Supply," serves as a blueprint for creating sustainable sources of water for the future of Los Angeles to reduce dependence on imported supplies. It is 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.[64] The Action Plan also takes into account the realities of climate change and the dangers of drought and dry weather.

[64] *Mayor Antonio Villaraigosa and DWP, Securing L.A.'s Water Supply, at 1 (May 2008).*

The premise of the Action Plan is that the City will meet all new demand for water due to projected population growth through a combination of water conservation and water recycling. In total, the City will conserve or recycle 32.6 billion gallons of water—enough to fill one foot of water across the entire San Fernando Valley, and enough to supply water to 200,000 homes for one year.[65] By the year 2019, half of all new demand will be filled by a six-fold increase in recycled water supplies and by 2030 the other half will be met through ramped-up conservation efforts.[66]

The Action Plan also specifically addresses current and future SWP supply shortages. DWP estimates that the Federal Court decision on Delta smelt will limit MWD exports of their anticipated SWP supply by up to 30 percent.[67] The Action Plan concludes, however, that MWD's actions in response to this threat (as described above) will ensure continued reliability of its water deliveries. The Action Plan further states that "[d]espite concerns about ongoing water shortages and higher costs, MWD has upheld its pledge to plan for emergencies and natural disasters throughout this region. The agency has approximately 1.7 million acre-feet in surface and groundwater storage accounts - including Diamond Valley Lake near Hemet - and 600,000 acre-feet of storage reserved for emergencies."[68] In total, this reserve of water supplies buffers the severity of a potential shortage.[69] Furthermore, by focusing on demand reduction, implementation of the Action Plan will ensure that long-term dependence on MWD supplies will not be exacerbated by potential future shortages.

The Action Plan includes key short-term and long-term strategies to secure water supply described below.

l) Short-Term Conservation Strategies

1) ***Enforcing prohibited uses of water***. The prohibited uses of water are intended to eliminate waste and increase awareness of the need to conserve water. While in effect at all times, the prohibited uses have not been actively enforced since the early 1990s. In November 2007, DWP resurrected its Drought Buster Program to heighten awareness and educate customers about the prohibited uses. Under enforcement, failure to comply would be subject to penalties, which can range from a written warning for a first violation to monetary fines and water service shutoff for continued non-compliance.[70]

---

[65] *Securing L.A.'s Water Supply at 1.*

[66] *Id. at 1.*

[67] *Id. at 8.*

[68] *Id.*

[69] *Id.*

[70] *Id. at 11.*

2) ***Expanding the prohibited uses of water***. DWP will update and strengthen the existing Emergency Water Conservation Ordinance by expanding the prohibited uses. Possible new prohibited uses include: further restrictions on watering landscape (i.e. prohibiting watering on certain days of the week or for a limited period of time); prohibit landscape watering during rain; and prohibit washing/rinsing vehicles with a hose when the hose does not have a functioning self-closing nozzle attached or allowing the hose to run continuously.[71]

3) ***Extending outreach efforts***. DWP has committed to $2.3 million for an aggressive conservation outreach and education campaign. Some activities include: step up communication with ratepayers to include bus placards, DWP vehicle placards, newspapers, radio, and television, among other types of media; outreach to Homeowner Associations and Neighborhood Councils to promote water conservation; train DWP field staff as well as field staff from Public Works, Recreation and Parks, and other appropriate City departments in identifying and reporting prohibited uses of water; and ramp up marketing of water conservation incentive and rebate programs.[72]

4) ***Encouraging regional conservation measures***. Work with MWD to encourage all water agencies in the region to adopt water conservation ordinances which include prohibited uses and enforcement.[73]

m) Long-Term Strategies

1) ***Increasing water conservation through reduction of outdoor water use and new technology***. The following are new and continuing water conservation programs as well as goals and benchmarks designed to measure their progress through 2030:

- **Residential Smart Sprinkler Systems:** Smart sprinkler systems improve water efficiency and are already used in parks and golf courses around the City will be extended to homes throughout L.A.'s neighborhoods.
    - Goal**:** Install 5,250 smart sprinkler controllers per year, with a total of 63,500 by 2020.
    - Water Savings**:** 4,962 AFY by 2030.
    - Action Plan**:** DWP will begin to provide smart controllers and installation services free of charge to qualifying residential customers. Program plans include the installation of 2,500 controllers in the first year of program, moving to 5,250 controllers per year on a sustained basis. The program is scheduled to launch in early 2009.[74]

[71] *Id.*

[72] *Id. at 12.*

[73] *Id.*

[74] *Id. at 13.*

- **Conservation Rebates and Incentives**:
  - Goal**:** Increase participation in Water Conservation Rebate and Incentive Programs.
  - Water Savings**:** 48,457 AFY by 2030.
  - Action Plan**:** DWP is continuing to expand rebates and incentives for homeowners and business owners to encourage them to purchase water-saving technology.[75] Rebate and incentive programs include the following:
    - High Efficiency Clothes Washer Program. DWP increased the rebate offered for residential high efficiency clothes washers from $150 to $250. DWP will further expand the program through "Point of Purchase" rebates, offering customers an instant rebate when they buy the appliance from a Los Angeles retailer. Since the program was launched in 1998, more than 60,000 water-saving clothes washers have been installed in Los Angeles residents' homes through the program.[76]
    - Commercial Rebate Program. Water conservation rebates and incentives were increased significantly in 2007 to offset the costs of replacing water-wasting toilets and urinals with high efficiency models. The current rebates offset most or all of the total replacement cost (including installation). DWP will increase program promotion to raise awareness of these significant financial incentives, resulting in increased program participation. Since this program's inception, more than 32,800 toilets have been replaced by commercial, industrial and institutional customers, and DWP is working to implement a grant-funded Cooling Tower program for commercial customers.[77]
    - High Efficiency Urinal Programs**.** Offering perhaps the greatest potential for quick implementation is the replacement of standard urinals with high efficiency urinals (0.5 gallon per flush (gpf) or less, including no-flush). In addition, recent changes in the Los Angeles Building Code now provide for the installation of completely water-free urinals.[78]
    - Additional Water Saving Efficiency Measures and Programs. As part of the City's ongoing effort to encourage customers to adopt passive water conservation measures (i.e., measures that can help customers conserve water on a daily basis without thinking about it) in their homes and businesses, DWP will continue to distribute water-saving bathroom and kitchen faucet aerators and shower heads

[75] *Id. at 14.*

[76] *Id.*

[77] *Id.*

[78] *Id. at 14-15.*

free-of-charge. DWP also plans to add rebates for products such as high-efficiency dishwashers and synthetic turf for residential customers to help increase their daily conservation efforts.[79]

- Action by Public Agencies:
    - Goal**:** Improving water efficiency at all City Department facilities. DWP provides incentive funding and technical assistance to City Departments for the installation of high efficiency urinals and smart irrigation controllers, and helps them identify other opportunities to improve water use efficiency.
    - Water Savings: Estimated to save at least 10 percent from existing use, totaling as much as 1,888 AFY in water savings.
    - Action Plan: DWP will assist City Departments and other public agencies in leveraging incentive funds to retrofit their facilities. The Public Sector Conservation Incentive Program, offered through MWD in conjunction with DWP, provides up-front incentives for public agencies to purchase water-efficiency technology.[80]
- Enhancing Conservation through Review of New Developments:
    - Goal**:** Ensure specifications for the Los Angeles Green Building program include water efficiency measures.
    - Water Savings**:** The Green Building Program can yield significant water savings through water conservation measures.
    - Action Plan**:** DWP will continue working with the City's Green Building Team to pursue desired changes in local codes and standards to promote water efficiency in new construction projects and major building renovations.[81]

2) ***Maximizing water recycling***. The City's goal is to increase the total amount of recycled water used in the City of Los Angeles six-fold by 2019—expanding from the current 1% to 6% of annual water demand. This will result in an estimated water savings of 50,000 AFY by 2019.[82] In order to achieve this goal, the City will take the following actions:

[79] *Id. at 15.*

[80] *Id. at 18-19.*

[81] *Id. at 21.*

[82] *Id. at 22.*

- **Develop a Recycled Water Master Plan**. DWP and the Bureau of sanitation will prepare a detailed Recycled Water Master Plan that will outline the steps and costs of boosting the City's recycled water level to 6 percent of total demand for the City. The Master Plan will provide a blueprint for reaching this goal by expanding the existing recycled water pipeline system and using recycled water for groundwater replenishment.[83]
- **Increase Recycled Water for Irrigation and Industrial Use**. DWP's current Water Recycling Capital Budget provides funding for 21 projects that will increase recycled water deliveries from 4,500 AFY to 19,350 AFY by 2014, adding more than 106,300 feet of new pipe and saving potable water for nearly 31,000 households throughout the City. [84] Potential customers in future years include several parks (Taylor Yard, Elysian, Branford, Woodley, and Balboa parks); Harbor and Scattergood Generating Stations; Hansen Dam and Van Nuys golf courses; oil refineries in the Harbor area; LAX cooling towers; schools in the Sepulveda Basin, the Los Angeles Zoo, and the Playa Vista development. Under the City's Water/Wastewater Integrated Resources Plan, 30,250 AFY of treated water will continue to be used to support habitat in the Japanese Gardens, Lake Balboa, the Wildlife Lake and the Los Angeles River.[85]
- **Use Recycled Water for Groundwater Replenishment**. Advanced treated recycled water can be sent to spreading basins to percolate underground and become part of the City's groundwater system for later use. This process, also termed groundwater replenishment, is a proven alternative for expanding locally produced, safe, high-quality drinking water. The process has been successfully implemented in Orange County, Australia, and Singapore, and is being considered in other U.S. and worldwide locations.[86]
- **Initiate Stakeholder Planning Process.** DWP will engage stakeholders from the Water/Wastewater Integrated Resources Plan (IRP) process in analyzing alternatives necessary for maximizing recycled water. These alternatives include implementing groundwater recharge with advanced treatment in the San Fernando Valley as well as expanding the purple pipe system to supply recycled water for irrigation and industrial uses.[87]
- **Upgrade Tillman Wastewater Treatment Plant**: Groundwater replenishment will require upgrading the Tillman Plant with state-of-the-art, advanced treatment capability similar to the Orange County Water District's recently implemented Groundwater Replenishment System, which has received widespread support. Advanced treatment would be constructed at the Tillman

---

[83] *Id. at 24.*

[84] *Id.*

[85] *Id.*

[86] *Id.*

[87] *Id. at 25.*

Plant, and the highly treated wastewater would be piped to spreading basins for groundwater recharge.[88]

3) ***Enhancing stormwater capture***. The City's goal is to increase groundwater recharge by retrofitting the Big Tujunga Dam and other large-scale projects through cooperative efforts with the Los Angeles County Flood Control District and other agencies. DWP is moving forward with several stormwater capture projects with the goal of increasing long-term groundwater recharge by a minimum of 20,000 AFY.[89] The following are the large-scale projects that are expected to be completed or in construction within the next five years:

- **Big Tujunga Dam – San Fernando Basin Groundwater Enhancement Project:** On September 18, 2007, the DWP Board approved Agreement No. 47717 to provide $9 million to the Los Angeles County Flood Control District for the construction of the Big Tujunga Dam Project – an effort to seismically retrofit the dam, increase its water storage capacity, improve its reliability as a supply source, enhance flood protection measures, and green the environment. The restoration of the dam is conservatively estimated to result in the additional capture and recharge of 4,500 AFY at the Hansen and Tujunga Spreading Grounds, and more in wet years. The project will make structural improvements to Big Tujunga Dam to restore its historical retention capacity of 6,000 acre-feet; currently the dam is restricted to 1,500 acre-feet of storage capacity.[90]
    - Schedule: In construction; scheduled to be completed by December 2010.
    - Budget: $100 million of which DWP is providing $9 million.
    - Resources: Los Angeles County Flood Control District is the project manager.
    - Potential Water Savings: Capture an additional 4,500 AFY of stormwater on average, up to 10,000 AFY or more in extremely wet years.
- **Sheldon-Arleta Project – Cesar Chavez Recreation Complex Project Phase I:** On December 19, 2006, the Board of Water and Power Commissioners approved Agreement No. 47448 to provide up to $5.25 million to the City of Los Angeles Department of Public Works for the construction of the project (the total project cost is about $9 million). The project will upgrade the methane gas extraction system at the Sheldon-Arleta Landfill that is necessary to allow the full use of the adjacent Tujunga Spreading Grounds. Currently, the spreading grounds are restricted to an operating capacity of 50 cubic feet per second (cfs) or 20 percent of the full operating capacity of 250 cfs.[91]
    - Schedule: In construction; scheduled to be completed by late-2008.

---

[88] *Id.*

[89] *Id. at 26.*

[90] *Id. at 27.*

[91] *Id.*

- Budget: $9 million of which DWP is providing $5.25 million.
- Resources: Los Angeles Department of Public Works is the project manager.
- Potential Water Savings: Capture of an additional 6,000 to 10,000 AFY of stormwater.

- **Hansen Spreading Grounds Enhancement Project:** DWP has entered into Agreement No. 47739 to share the costs of the construction of the Hansen Spreading Grounds Project with the District. The project will increase the capacity and efficiency of the spreading grounds by: 1) combining and deepening the existing basins, and 2) installing and building a new rubber dam, intake structure, control house, and upgrading the telemetry system. The Los Angeles County Board of Supervisors approved the agreement on March 11, 2008, and the DWP Board of Commissioners approved it on April 1, 2008.[92]
  - Schedule: Scheduled to go into construction in summer 2008; completion expected within 18 months.
  - Budget: Up to $15 million; DWP is providing up to $7.5 million, with remaining costs covered by the LA County Flood Control District.
  - Resources: Los Angeles County Flood Control District is the project manager.
  - Potential Water Savings: Capture of an additional 1,200 to 3,000 AFY of stormwater.
- **Tujunga Spreading Grounds Enhancement Project:** This project proposes to deepen the spreading basins, increase their storage capacity, replace the existing diversion structure with two diversion structures, and add remote automation of the operating structures.[93]
  - Schedule: Planning and design 2008-09; construction in 2010.
  - Budget: $1.3 million for design; $24 million for construction (DWP funded).
  - Resources: DWP will be the project manager.
  - Potential Water Savings: Capture of an additional 8,000 to 12,000 AFY of stormwater.
- **Pacoima Spreading Grounds Enhancement Project**: This project proposes to deepen the spreading basins, increase their storage capacity, replace existing diversion structure, and add remote automation of the operating structures.[94]

[92] *Id. at 27-28.*

[93] *Id. at 28.*

[94] *Id.*

- Schedule: Planning and design 2008-09; construction in 2011.
- Budget: $1.3 million for design; $20 million for construction (DWP may provide some funding for this project).
- Resources: Los Angeles County Flood Control District will be the project manager.
- Potential Water Savings: Capture of an additional 1,500 to 3,000 AFY of stormwater.

4) ***Accelerating clean-up of the groundwater basin***. The City's goal is to clean up the contaminated San Fernando Groundwater Basin to expand groundwater storage and the ability to fully utilize the City's groundwater supplies. The result will be a reduction of imported water supply of up to 87,000 AFY – DWP's annual allocation of San Fernando Valley groundwater supplies.[95] DWP will also work to ensure that this Basin remains a consistent, stable and reliable resource for years to come. The following actions are proposed to achieve this goal:

- **Work with Regulatory Agencies and Governmental Officials**: DWP will continue to encourage the EPA to develop a long-term, comprehensive solution for existing and emerging contamination issues in the Basin. In addition to the EPA, DWP will work with the Los Angeles Regional Water Quality Control Board and the California Department of Toxic Substances to find and hold polluters accountable for cleaning up the Basin.[96]
- **Groundwater System Improvement Study (GSIS):** DWP will conduct a comprehensive groundwater study for the Basin. This study is a necessary step to evaluate the groundwater quality in the Basin and recommend treatment options to maximize the utility of the groundwater supply.[97]
  - Schedule: Contract award in mid-2008; contract term is 6 years.
  - Budget: $10 million (DWP funded).
  - Resources: DWP will serve as contract manager and administrator.
  - Benefit: Will provide vital information to develop a long-term strategy to remediate groundwater contamination in the San Fernando Basin.

[95] *Id. at 29.*

[96] *Id.. at 30.*

[97] *Id.*

- **Monitoring Well Drilling Contract:** DWP will install up to 40 new monitoring wells throughout the Basin to provide vital water quality information necessary for the Groundwater System Improvement Study.[98]
    - Schedule: Construction contract award in mid-2009; contract term is 2 years.
    - Budget: $7.5 million (DWP funded)
    - Resources: DWP will serve as contract manager and administrator
    - Benefit: The monitoring wells can be routinely sampled during and after the GSIS to provide vital information on groundwater contaminants and their concentration levels.
- **Interim Wellhead Treatment:** DWP will install interim treatment for select wellheads in the Tujunga Well Field in order to maintain groundwater pumping production. An amount of $3 million has been included in the budget for this work.[99]

5) ***Expanding groundwater storage***. DWP is investigating opportunities for increased storage of groundwater, creating a cost-effective, environmentally friendly reserve of water resources in case of extreme drought or other emergencies. Currently, the City has significant amounts of stored groundwater in the San Fernando Basin. However, as noted above, contamination restricts the ability to effectively utilize this resource.[100]

DWP is investigating the following opportunities: groundwater storage along the Los Angeles Aqueduct; a groundwater conjunctive use storage project in the LA County groundwater basins; and construction of an interconnection between the Los Angeles Aqueduct and the California Aqueduct, located where the two aqueducts intersect in the Antelope Valley. The interconnection will allow for water transfers or exchanges, and could be used to help move water to facilitate groundwater storage opportunities. The design phase of the interconnection is almost complete. DWP is waiting for a permit to build on land owned by DWR. DWP plans to begin construction in 2008.[101]

i) Local Area

(1) Water Supply and Infrastructure

Domestic and fire-flow water service to the Project Site is provided by DWP. DWP has existing water lines adjacent to and crossing the Project Site as shown on Figure IV.J-1. The entire Project Site is within

[98] *Id.*

[99] *Id.*

[100] *Id.*

[101] *Id. at 31.*

the 830 pressure zone, which refers to the hydraulic grade line elevation established by DWP for their water systems. Hydraulic grade lines are the mean sea level elevations maintained for the pressure zone. Therefore, the 830 pressure zone refers to a mean sea level elevation of 830 feet. Water lines from other pressure zones exist adjacent to the Project Site as well.

DWP has existing 8-inch-diameter and 12-inch-diameter water lines in Lankershim Boulevard and an existing 12-inch-diameter water line in Bluffside Drive that provide water service to the Project Site. DWP also has a 60-inch transmission water line within the Project Site along the northeasterly side of the Hollywood Freeway (US 101). Approximately 100 feet of existing 8-inch-diameter water line crosses the Project Site along the northeasterly side of the Hollywood Freeway adjacent to the existing 60-inch-diameter water line. This 8-inch-diameter line conveys water between the 60-inch-diameter and the 12-inch-diameter water line in Lankershim Boulevard.

(2) Water Treatment

Much of the City's water flows from north to south, entering the City at the Los Angeles Aqueduct Filtration Plant (LAAFP) in Sylmar, which is owned and operated by DWP. Water entering the LAAFP undergoes treatment and disinfection before being distributed throughout DWP's Water Service Area.[102] The LAAFP has a design capacity of 600 million gallons per day (MGD). The average plant flow is 450 MGD in non-summer months and 550 MGD during summer months. Groundwater quality is closely monitored by DWP to ensure that it meets both state and federal water quality standards. DWP monitors over 90 chemicals and bacteria. Water samples are also regularly collected and tested from watersheds, reservoirs, groundwater supply wells, storage facilities, and other locations.[103] Treated water is conveyed throughout the City by a system of 280 miles of trunk lines that act as the major arteries for water delivery; these trunk lines are 20-inches and greater in diameter.[104] Water is further conveyed by a local system of water mains and lines that also serve the Project Site.

---

[102] *City of Los Angeles Department of Water and Power, City of Los Angeles 2005 Water Quality Report, website: http://www.ladwp.com/ladwp/cms/ladwp001965.jsp, accessed July 16, 2007.*

[103] *Los Angeles Department of Water and Power, Water Quality, website: http://www.ladwp.com/ladwp/cms/ladwp000547.jsp, accessed July 16, 2007.*

[104] *City of Los Angeles Department of Water and Power, Improvement Projects, Trunk Line Improvements, website: http://www.ladwp.com, accessed July 16, 2007.*

Figure IV.J-1

ii) On-site

The existing Metro Red Line station has existing on-site water lines for fire flow and a small restroom facility. A private on-site water system exists for a small landscaping irrigation use with potable water for Sites A, B, and C, and a small restroom facility on Site C for bus driver use only. No facilities exist on Sites D and E. Because only limited landscaped areas occur within the Project Site, the amount of water used is negligible but has been calculated based on fixture units and the City of Los Angeles Uniform Building Code. The estimated existing average domestic water use is 0.0125 MGD and 0.032 MGD for the peak flow.[105] The existing Metro station also has existing on-site water lines for fire flow. According to DWP, the existing available fire flow is 3,250 gallons per minute (gpm) at 20 pounds per square inch (psi) minimum for Sites B and C, and 3,215 gpm at 20 psi minimum for Site A.[106] No structures are located on Sites D and E, and no fire flow is required. DWP recycled water is not available to the Project Site or its surrounding area. The closest DWP recycled water is provided by a regional 12-inch-diameter recycled water line approximately 7,000 feet away from the Project Site at the intersection of Forest Lawn Drive and Barham Boulevard.

3. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

The *Los Angeles CEQA Thresholds Guide* (page M.1-3) states that a determination of significance relative to water supply and infrastructure shall be made on a case-by-case basis, considering the following factors:

- The total estimated water demand for the project;
- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout;
- 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 improvements or project design features would reduce or offset service impacts.

Based on all of these factors, the Project would have a significant impact if:

i) Water - Construction

- The construction of new or upgraded water distribution infrastructure would result in a substantial obstruction of vehicles and/or pedestrian access (the reader is referred to Section IV.B,

[105] *Peak Flow Rate = 1.78*(Average Water Demand in MGD ^ 0.92) per ASCE Sewer Design Manual.*

[106] *Email correspondence from Luis Nuno at DWP to Jeanet Babauta at Thomas Properties Group, dated April 7, 2008.*

Transportation for an analysis of Project impacts related to vehicle and pedestrian access during construction);

ii) Water Supply

- The total estimated water demand for the Project at buildout would exceed available water supplies; or
- The Project would exceed the projected employment, housing or population growth projections of the applicable Community Plan as assumed in the planning for future water infrastructure needs (the reader is referred to Section IV.N, Population and Housing, for an analysis of Project impacts related to employment, housing, and population growth);

iii) Water Conveyance System

- The estimated water demand for the Project would exceed the available capacity within the distribution infrastructure that would serve the Project Site.

b) Project Impacts

i) Project Design Features

As discussed below, due to increased fire-flow demands, the construction of new water mains, fire hydrants, and water laterals would be required and would be undertaken as a design feature of the Project. The improvements and additions are shown on Figure IV.J-1 and include: 1) the removal and replacement of sections of DWP's 8-inch-diameter water line located on Site C that conveys water between the 60-inch water distribution trunk line and the 12-inch-diameter water line in Lankershim Boulevard with a new 12-inch-diameter water line, and 2) the construction and installation of a new 8-inch-diameter and 12-inch-diameter water lines in Lankershim Boulevard and Campo de Cahuenga Way. The new 12-inch-diameter water line in Lankershim Boulevard would replace the existing 8-inch-diameter water line in Lankershim Boulevard. A portion of this new 12-inch-diameter water line would be constructed within the same alignment as the existing 8-inch-diameter water line to avoid additional disturbance of the historic Feliz Adobe foundation remains under Lankershim Boulevard. In the event that previously undisturbed remnants of the foundation are uncovered during construction, the alignment of the 12-inch-diameter water line would be altered to avoid impact via an alternate route. The construction of these improvements would provide a redundant system to meet the fire-flow demand of 7,550 gpm. New fire hydrants and water laterals installed throughout the Project Site would conform to the City's Fire Code and in consultation with the Los Angeles Fire Department, which would occur during the building permit plan check process.

In addition to the improvements described above, the Project also includes the installation of domestic, fire, and recycled water meters at various locations: 1) an 8-inch-diameter fire-flow water meter, a 2-inch-diameter domestic water meter, and a 2-inch recycled water meter for toilet facilities on Site B would be installed along Campo De Cahuenga Way; 2) an additional set of meters along Campo de Cahuenga Way would be installed to serve the proposed retail facilities; 3) an 8-inch-diameter fire water meter, a 4-inch-

diameter domestic water meter, and a 4-inch-diameter recycled water meter for toilet facilities on Site would be installed along Lankershim Boulevard; 4) the proposed office building on Site A would be served by an 8-inch-diameter fire-flow water meter, a 3-inch domestic water meter, and a 4-inch-diameter recycled water meter for toilet facilities along Lankershim Boulevard; the remainder of Site A would be served by an 8-inch-diameter fire-flow water meter, a 3-inch-diameter domestic water meter, and a 3-inch-diameter recycled water meter for toilet facilities; and 5) two additional 2-inch-diameter recycled water meters, one along Bluffside Drive and the other along Lankershim Boulevard, would be developed for Project Site irrigation. Dual plumbing would be installed in the Project buildings that would allow the use of recycled water for irrigation and toilet flushing when recycled water becomes available for use at the Project Site.

Additionally, the design of the Project design shall incorporate the following water conservation measures:

1. Construct the additional domestic and fire protection systems to City standards required to support the additional development, including connections to the existing systems, as appropriate.

2. Construct water use reduction fixtures in accordance with the standard DWP water savings guidelines and 2005 Title 24.

3. To the extent feasible, the Project Applicant shall implement the following water conservation practices to further reduce the Project water demand:

    a. Low flow fittings, fixtures, and equipment including low-flush toilets and urinals.

    b. Use of efficient irrigation system such as drip irrigation and automatic systems that use moisture sensors.

    c. Include self-closing valves for faucets and drinking fountains.

    d. Incorporate low water use or drought tolerant landscaping pursuant to LAMC Section 12.40-12.43.

    e. Water efficient ice machines, dishwashers and clothes washers and any other washing appliances.

    f. Cooling towers recirculating system.

    g. Public information/awareness on water conservation via bathroom stickers, table tents, etc.

    h. Maximize the use of water efficient technologies and practices in any new facilities.

ii) Recycled water, when available, for uses in irrigation, cooling tower, and water closet/urinal flushing (dual plumbing). LEED Certification

The Project Applicant would be pursuing Leadership in Energy and Environmental Design (LEED) certification for New Construction. Water efficiency credits for LEED certification are obtained in three categories: 1) Water Efficient Landscaping; 2) Innovative Wastewater Technologies; and 3) Water Use Reduction. The Project would reduce its potable water demand by as much as 30 to 40 percent by incorporating some measures of all the categories listed above. Water efficient landscaping would be achieved by incorporating a hybrid system of using drought tolerant plants, high efficiency irrigation systems, and the use of DWP recycled water. Innovative wastewater technologies in consideration for the Project would be the use of municipal recycled water for toilet flushing and in waterless urinals. In adherence to DWP's condition of Project approval, recycled water, when available, would also be used for cooling towers. In addition, the Project would use high-water efficiency fixtures for lavatories, showerheads, sinks, and other domestic water needs.

iii) Water Treatment Facilities

Implementation of the Project would increase the demand for additional treated water at the Project Site, considering the Project's increased demand for water supply (refer to the analysis below). As discussed below, the Project would have a demand for a peak water flow of up to 0..511 MGD (Phases 1 and 2, Option B, worst-case water use scenario for the Project) and can be served by DWP through existing entitlements (refer to the discussion of Project impacts on water supply, below).[107] The LAAFP is designed and operated to accommodate the water treatment needs of the existing water demand and future water demand projected in DWP's *2005 Water Management Master Plan*. Because the Project would be served from existing water supplies, no additional water treatment beyond the existing capacity of the LAAFP would be required. Therefore, Project impacts related to water treatment would be less than significant.

iv) Water Supply, Infrastructure, and Fire Flow

Implementation of the Project would increase demand for water supply and necessitate upgrades in water conveyance infrastructure to meet the Project's fire-flow water demand. A Water Supply Assessment was prepared by DWP staff to assess DWP's ability to serve the Project's water supply needs (refer to Appendix IV.J-1). Additionally, Psomas conducted an evaluation of the existing water distribution and supply system associated with the Project Site, by evaluating existing physical features and capacities of the system and its ability to serve the Project.

The Water Supply Assessment provided an estimation of the Project's water demand. Table IV.J-3 shows the Project's estimated domestic water demand and potential water demand offsets due to water conservation measures and the use of recycled water, for Phases 1 and 2, both options.[108] As shown on

[107] *Refer to Section II, Project Description, for a description of Phase 2 Option B.*

[108] *Refer to Section II, Project Description, for a description of Options A and B.*

the table, the Project would have an estimated average daily water demand of 0.210 MGD under Phases 1 and 2, Option A, and 0.271 MGD under Phases 1 and 2, Option B.

Existing Domestic Water Demand: The existing water demand for the landscape irrigation system and the small restroom facility is 0.0125 MGD (14 AFY) for the average daily flow and 0.032 MGD (35 AFY) for the expected daily peak flow.

Estimated Domestic Water Demand: The estimated water demand calculations provided by DWP (assuming no use of recycled water) are 0.339 MGD (382 AFY) for the average demand and 0.658 MGD (737 AFY) for the peak demand for Phases 1 and 2, Option A, and 0.400 MGD (448 AFY) average demand and 0.767 MGD (859 AFY) peak demand for Phases 1 and 2, Option B (refer to Tables IV.J-3 and IV.J-4).

Table IV.J-3
Estimated Average Daily Water Demand of the Project

Facility	Quantity	Water Use Rate (GPD)[1]	Water Use	
			GPD	Acre-ft/Year
Existing Land Uses	-	-	12,498[2]	14
Project				
Phase 1				
Outdoor Water Use[3]	-	-	42,360	47
Site A				
Office	655,200 sf	180/1,0000 sf	117,936	132
Studio/Audience Viewing Room	600 seats	4/seat	2,400	3
Studio Regular Filming Area	285,000 sf	80/1,000 sf	22,800	26
Garage	459,200 sf	20/1,000 sf	9,184	10
Retail	17,500 sf	80/1,000 sf	1,400	2
Restaurant	225 seats	30/seat	6,750	8
Site B				
Garage	599,800 sf	20/1,000 sf	11,996	14
Total Flow, Phase 1			*214,826*	*242*
Phase 2, Option A				
Site C				
Office	489,100 sf	180/1,000 sf	88,038	99
Garage	606,000 sf	20/1,000 sf	12,120	14
Outdoor Water Use[3]	-	-	24,651	28
Total Flow, Phase 2 (Option A)			*124,809*	*141*
Phase 2, Option B				
Site C				
Residential	400 du	160/du	64,000	72
Hotel	300 rms	260/rm	78,000	87
Hotel Health Club	1,000 sf	800/1,000 sf	800	1
Hotel Conference Room/Lounge	8,000 sf	80/1,000 sf	640	1
Hotel Restaurant	50 seats	30/seat	1,500	2
Garage	710,000 sf	20/1,000 sf	14,200	16
Outdoor Water Use[3]	-	-	26,383	30

Table IV.J-3 (Continued)
Estimated Average Daily Water Demand of the Project

Facility	Quantity	Water Use Rate (GPD)[1]	Water Use	
			GPD	Acre-ft/Year
Total Flow, Phase 2 (Option B)			*185,523*	*208*
Subtotal – Phases 1 & 2, Option A			***339,635***	***383***
Less Existing Use			*-12,498*	*-14*
Less Additional Conservation[4]			*-17,854*	*-20*
Less Recycled Water Use[5]			*-99,088*	*-111*
Total Water Use – Phases 1 & 2, Option A			**210,195**	**238**
Subtotal – Phases 1 & 2, Option B			***400,349***	***448***
Less Existing Use			*-12,498*	*-14*
Less Additional Conservation[4]			*-17,854*	*-20*
Less Recycled Water Use[5]			*-99,088*	*-111*
Total Water Use – Phases 1 & 2, Option B			**270,909**	**303**

[1] *Based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table – 3/20/2002.*
[2] *Based on DWP billing data for the Project Site.*
[3] *Outdoor water use is estimated to be approximately 28 percent of indoor usage for commercial use and 18 percent for multi-family residential.*
[4] *Water conservation due to additional conservation commitments agreed to by the Project Applicant.*
[5] *Recycled water would be used for cooling towers, commercial toilet towers, commercial toilet flushing, and irrigation.*

Table IV.J-4
Estimated Peak Flow

Project Option	Peak Daily Flow (MGD)[1]
Phases 1 and 2, A	0.658
Phases 1 and 2, B	0.767

[1] *Peak Flow Rate = 1.78*(Average Water Demand in MGD ^ 0.92), per ASCE Sewer Design Manual.*
Source: Psomas 2008.

Recycled Water Demand and Additional Conservation Measure: As part of a condition of Project approval by DWP, the Project would use recycled water for irrigation, cooling towers, and toilet flushing in commercial spaces. The estimated maximum potential demand for recycled water is 0.099 MGD (111 AFY) and 0.212 MGD (237 AFY) peak demand for Phases 1 and 2, Option B. Use of recycled water would result in a reduction in the domestic demand to 0.301 MGD average (337 AFY) and 0.555 MGD (622 AFY) peak for Phases 1 and 2 Option B (worst-case water use scenario for the Project). Further, additional conservation measures beyond those required by law, such as low-flush toilets and urinals, would further reduce the Project's water demand by 0.179 MGD average (20 AFY) and 0.044 MGD peak (49 AFY), resulting in a net daily average water demand of 0.271 MGD (303 AF per day), under Phases 1 and 2, Option B.

Fire-Flow Demand: The existing fire-flow demand at the Project Site is 3,250 gpm and is available at the fire hydrants on Lankershim Boulevard. An additional 3,215 gpm is available at the fire hydrants on

Bluffside Drive. The fire-flow requirement at Lankershim Boulevard for full buildout of the Project is 7,550 gpm. Fire-flow was not considered in the daily water demand calculations for the Project, since fire flows are intermittent and variable. However, fire-flow is a critical element for distribution system sizing and was considered in the infrastructure analysis conducted by DWP.

As noted previously, the Project Site does not currently have a source of recycled water supply. As a condition of Project approval by DWP, the Project Applicant would be required to install a temporary water line to extend the existing recycled water system located at the LARFCC and Barham Boulevard to the Project Site, and then to contribute funds to DWP toward the installation of a permanent recycled water line to the Project Site. Dual plumbing would be installed in the Project buildings that would allow the use of recycled water for irrigation and toilet flushing when recycled water becomes available for use at the Project Site. Figures IV.J-2 and IV.J-3 show the two possible configurations for recycled water infrastructure for the Project. Figures IV.J-4 and IV.J-5 show the preferred temporary and permanent alignments of the extended recycled water line, respectively, to the Project Site from the nearest existing DWP recycled water infrastructure location (i.e., LARFCC and Barham Boulevard). Figures IV.J-4 through IV.J-8 show the additional possible alignment options for bringing recycled water to the site. The preferred routes along with the other two permanent route options are described below.

- **Preferred Temporary Route:** The preferred alignment of the temporary route for extension of the recycled water system to the Project Site is shown on Figure IV.J-4. From the existing recycled water line just west of Barham Boulevard at the LARFCC, the line would extend aboveground, westerly, and parallel to the LARFCC along River Road to Lankershim Boulevard. Once reaching Lankershim Boulevard, the line would then extend southerly and underground in Lankershim Boulevard to Valleyheart Drive, westerly in Valleyheart Drive to Bluffside Drive, southerly in Bluffside Drive before crossing through the Weddington Park access road to Campo de Cahuenga Way to the Project Site as shown on Figure IV.J-3. This alignment would be temporary condition and would be used until construction of one of the permanent routes described below.
- **Preferred Permanent Route**: The preferred alignment of the permanent route for extension of the recycled water system to the Project Site is shown on Figure IV.J-5. From the existing recycled water line just west of Barham Boulevard at the LARFCC, the line would extend southerly through the Universal Studios property to the area of the eastern portion of Buddy Holly Drive. From this area, the line would extend westerly along Buddy Holly Drive until reaching its terminus at the existing Sheraton Hotel. The line would then extend southerly onto Caltrans right-of-way and travel westerly along the northbound Hollywood Freeway off-ramp until reaching Lankershim Boulevard. From here the line would extend northerly along Lankershim Boulevard to Campo de Cahuenga Way and to the Project Site as shown on Figure IV.J-2. Construction of this line would be phased to accommodate the construction of portions of the proposed development on the Universal Studios property (refer to Related Project #65 on Table IV.B-10). The anticipated completion year for this route would be 2016.

Figure IV.J-2

Figure IV.J-3

Figure IV.J-4

Figure IV.J-5

Figure IV.J-6

Figure IV.J-7

Figure IV.J-8

- **Permanent Route, Option 1:** Development of this option would occur in three construction phases. From the Barham Boulevard at the LARFCC connection point, the line would extend through the Universal Studios Property and westerly in Universal Hollywood Drive. During the first construction phase, the line would connect to an existing recycled water pump station within the eastern portion of the Universal Studios property (refer to Figure IV.J-6). From there the line would extend westerly along Universal Hollywood Drive until reaching Lankershim Boulevard. The proposed line would then extend as shown on Figure IV.J-2 to serve the Project. The second construction phase would be designed to accommodate the time frame during the construction of portions of the proposed development at the Universal Studios property. During the third construction phase, construction of the recycled water line in its ultimate alignment would be completed, following the same route as described for the first phase of construction (refer to Figure IV.J-7).
- **Permanent Route, Option 2:** From the Barham Boulevard at the LARFCC connection point, the line would extend southerly on Barham Boulevard to Cahuenga Boulevard where the line would continue westerly to Lankershim Boulevard (refer to Figure IV.J-8). The line would then extend northerly in Lankershim Boulevard to the Project Site (refer to Figure IV.J-2).

According to DWP and the Water Supply Assessment, the Project's demand for domestic water associated with both phases of the Project could be accommodated by existing water supplies. In addition, as part of their water conservation initiatives, DWP would work to provide the Project with municipal recycled water by as early as 2011. Therefore, with implementation of the proposed water conservation measures and DWP's condition of Project approval (refer to Mitigation Measures J-1 through J-3), Project impacts related to water supply would be less than significant.

As noted previously, installation of new water infrastructure to meet the anticipated domestic and fire-flow needs of the Project is included as a Project Design Feature. With implementation of these water distribution system improvements and additions, Project impacts related to water infrastructure and fire flow would be less than significant.

4. CUMULATIVE IMPACTS

Implementation of the Project in conjunction with regional growth would increase the demand for the water supply in the City. As discussed previously, DWP purchases water from MWD to supplement DWP supplies and has a preferential right to 22 percent of MWD's water supply. MWD imports its water supplies from northern California through the SWP California Aqueduct, operated by the DWR, and from the Colorado River through MWD's own Colorado River Aqueduct. Using SCAG regional growth forecast in calculating future water demands for its service area in the Blueprint Report, MWD takes into consideration anticipated water demands of DWP and states that MWD's water supplies are fully reliable to meet the demands of its customers (including DWP) in all hydrologic conditions through at least 2030. Even during shortages, MWD expects that it will be able to meet its member agencies' long-term needs through a combination of actions, including water-transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater

desalination. Additionally, MWD has more than approximately 3.8 million AF of storage capacity available in reservoirs and banking/transfer programs.

DWP has outlined aggressive short-term water conservation strategies in its Water Supply Action Plan that will be implemented and enforced to ensure a sufficient and reliable water supply in the event of a water supply shortage. These strategies include, but are not limited to: 1) more rigorous enforcement of existing prohibited uses of water, as well as new and expanded prohibited uses; 2) additional restrictions on landscape watering and washing/rinsing of vehicles, and increased monetary penalties for violations; 3) expansion of the agency's rebate and incentive program to further encourage water conservation efforts; and 4) increased rates to encourage water conservation and curb usage. In the unlikely event that an unexpected water supply shortage was to occur, DWP would intensify, accelerate, and expand on these short-term conservation strategies to continue to ensure a sufficient and reliable water supply.

As discussed previously, based on the Water Supply Assessment prepared by DWP for the Project, the Project's demand for water supply is consistent with the future demand assumptions made by MWD and could be accommodated by DWP's existing entitlements. Thus, the Project's contribution to the cumulative demand for water supply would not be considerable. Therefore, cumulative water impacts would be less than significant.

5. MITIGATION MEASURES

The following measures are required as conditions of Project approval by DWP:

J-1: Prior to the issuance of any Certificate of Occupancy for Phase 1 or December 31, 2012, whichever is later, the Project Applicant shall install a temporary water line to extend the existing recycled water system located at the LARFCC and Barham Boulevard to the Project Site.

J-2: Prior to the issuance of any Certificate of Occupancy for Phase 2 or December 31, 2016, whichever is later, the Project Applicant shall contribute funds to DWP toward the installation of a permanent recycled water line to the Project Site.

J-3: When recycled water becomes available to the Project Site, to the extent permitted by applicable law, the Project shall use recycled water for irrigation, cooling towers, and toilet flushing in commercial spaces.

a) Environmental Impacts Associated With Mitigation

As a condition of Project approval by DWP, the Project Applicant would be required to install a temporary water line to extend the existing recycled water system located at the LARFCC and Barham Boulevard to the Project Site, and then to contribute funds to DWP toward the installation of a permanent recycled water line to the Project Site. Construction of the temporary and permanent recycled water line would result in additional environmental impacts. These impacts are discussed below.

i) Temporary Lane Closures

Construction of the recycled water line in Lankershim Boulevard and Campo de Cahuenga Way near the Project Site would require temporary lane closures. However, temporary lane closures on these roadways is already anticipated to occur as a result of other roadway infrastructure improvements that are part of the Project and/or are required as mitigation (refer to Section IV.B, Transportation). Construction of the recycled water line would occur in concert with construction of other infrastructure in the same area and would not result in any additional lane closures than already identified in Section IV.B, Transportation. Therefore, impacts of Mitigation Measures J-1 and J-2 related to temporary lane closures would be less than significant.

ii) Construction-related Air Quality

Implementation of Mitigation Measures J-1 and J-2 would result in the generation of additional pollutant emissions during the Project's construction phases. The analysis of the Project's air quality impacts concluded that the Project's generation of construction-related pollutant emissions would be significant and unavoidable (refer to Section IV.I, Air Quality) with respect to regional construction emissions, ambient air quality concentrations and toxic air contaminants. Thus, the pollutant emissions generated as a result of these mitigation measures were included in the emissions estimates upon which these conclusions are based. Therefore, construction emissions associated with the mitigation measures would be significant and unavoidable.

iii) Construction-related Noise

Implementation of Mitigation Measures J-1 and J-2 would result in the generation of additional noise during the Project's construction phases. As discussed in Section IV.C, Noise, the relevant significance threshold for construction-related noise is an increase in the existing ambient exterior noise level at a sensitive land use of five dBA or more. Hourly average noise levels of construction equipment produce only slightly more noise than a typical busy city street. It is expected that the street noise source would significantly reduce during construction activities due to reduced speed levels and amount of traffic. Because of this, it is difficult to predict the ambient noise levels while specific streets are being worked on. However, it is expected that this type of construction would only slightly increase the ambient noise levels within 100 feet of the construction project. Beyond that, no measurable difference would be expected to be noticed, and impacts would be less than significant.

iv) Archeological/Paleontological Impacts

Construction of the reclaimed water line may create the potential for encountering archaeological and/or paleontological resources in the vicinity of the water line. However, implementation of mitigation measures H-1 through H-6 (identified in Sections IV.H, Cultural Resources, of this EIR) would ensure that secondary impacts from construction of the reclaimed water line would be less than significant.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to water service would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
J. UTILITIES
2. SEWER

Organization of the Subsection

1. INTRODUCTION

2. ENVIRONMENTAL SETTING

a) Regulatory Setting

i) Integrated Resources Plan/Water Facilities Plan

ii) City of Los Angeles Ordinance No. 166,060[109]

b) Existing Conditions

i) Regional

ii) Local

iii) On-Site

3. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

b) Project Design Features

c) Project Impacts

4. CUMULATIVE IMPACTS

5. MITIGATION MEASURES

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

[109] *This ordinance is also known as the Sewer Allocation Ordinance.*

1. INTRODUCTION

The information in this subsection is summarized from the following document, which can be found in Appendix IV.J-2:

- Wastewater/Sewer System Technical Report, prepared by Psomas, July 2008.

2. ENVIRONMENTAL SETTING

a) Regulatory Setting

i) Integrated Resources Plan/Water Facilities Plan

The City's sewer system is subject to Section 201 of the Federal Clean Water Act (CWA). According to the CWA, the City must adopt a wastewater facilities plan in accordance with the United States Environmental Protection Agency (EPA) Rules and Regulations, 40 CFR, Section 35.917. Section 201 specifies the following:

> *"Facilities planning will demonstrate the need for facilities and, by a systematic evaluation of feasible alternatives, will also demonstrate that the proposed measures represent the most cost-effective means of meeting established effluent and water quality goals while recognizing environmental and social considerations."*[110]

The City prepared a Wastewater Facilities Plan (WFP) in 1982 and updated it in 1991. The 1991 WFP update planned for facilities through the year 2010 and currently regulates wastewater facilities in the City. In 1990, to respond to the problem of insufficient sewer capacity, the City adopted Ordinance No. 166,060, which is discussed below in detail. In summary, Ordinance No. 166,060 established sewer permit allocation regulations for projects that discharge sewage to the Hyperion Treatment System (HTS).

As a follow-up to these plans and programs, the City adopted the Integrated Resources Plan (IRP) in 2006 that incorporates a new City-prepared WFP for facilities through 2020, as the City was faced with the task to meet future wastewater needs of more that 4.9 million residents expected to live within the City by 2020. The IRP serves to update the information prepared in the 1991 WFP, while also considering the City's recycled water and urban runoff system needs. Specifically, the IRP was developed to accommodate the projected increase in wastewater flow over the next 20 years while maximizing the beneficial reuse of recycled water and urban runoff and as a result, optimizing the use of the City's existing facilities and water resources. Demographic (population and employment) projections and data sources used in the IRP were based on the Southern California Association of Governments (SCAG) 2001 Regional Transportation Plan (RTP), which estimates that the population of Los Angeles would reach almost 4.9 million people in 2020.

---

[110] *City of Los Angeles Integrated Resources Plan Facilities Plan, Volume 1, July 2004, Revised November 2005, page 3-1.*

In order to meet the needs of increased wastewater generation, the City chose to expand its current overall treatment capacity, while maximizing the potential to reuse recycled water through groundwater replenishment in future years. According to the IRP, the only water reclamation plant capable of providing recycled water for replenishment is the Donald Tillman Water Reclamation Plant (TWRP) in the Sepulveda Basin in Van Nuys. As identified in the IRP, the Hyperion Treatment Plant (HTP) can currently serve roughly 450 million gallons of wastewater per day (MGD), while the TWRP can accommodate approximately 80 MGD. With an expected 18.7 percent population growth to occur in the City, the TWRP may be increased in size to convey approximately 100 MGD of wastewater by 2020.

These improvements, along with new sewer pipelines, will ensure that untreated wastewater is not discharged to rivers or the ocean, thereby protecting the environment. As stated previously, the IRP also proposes to maximize recycled water reuse through groundwater replenishment, as this is considered a valuable potential benefit, since it would allow the City to reduce the need to import water from other regions. However, the IRP states that if the City does not implement groundwater replenishment by the time additional treatment capacity is needed, the expansion of wastewater treatment capacity would occur at the HTP rather than at the TWRP. This will result in additional wastewater capacity levels at the HTP and improved sewer facilities and pipelines.

In November 2006, the City Council certified the Final EIR for the IRP. The City of Burbank filed suit against the City challenging that the conclusions in the Final EIR involving construction of a new 5.75-mile underground sewer conveyance, the Glendale-Burbank Interceptor Sewer (GBIS) that would be constructed to divert future flows from and allow rehabilitation of an existing aging sewer line. The Superior Court ruled in favor of the City of Burbank and found the IRP EIR lacking in five areas relating to the GBIS that need to be clarified or corrected. In response to this ruling, the City Council: 1) Decertified the Final EIR; 2) Suspended the GBIS portion of the IRP pending adequate environmental review consistent with the Court's final decision; 3) Recertified the Final EIR (excluding references to the GBIS portion of the IRP); and 4) instructed the BOS and other relevant staff to conduct the necessary environmental review of the GBIS portion of the IRP and correct deficiencies in the EIR that have been identified in the Court's decision, prior to any re-approval of the GBIS portion of the IRP.

In general, implementation of the IRP will enable the City to adequately convey wastewater to the treatment plants with minimal potential for sewage spills, which will result in the protection of public health and safety. It will also enable the City to treat future wastewater flows that protects public health and safety and meets regulatory requirements, thereby protecting the environment, in general, and surface waters, in particular.[111]

[111] *City of Los Angeles Integrated Resources Plan, IRP Findings and Statement of Overriding Considerations, September 2006, page 33.*

ii) City of Los Angeles Ordinance No. 166,060[112]

City Ordinance No. 166,060 was adopted in 1990 and established very specific regulations for projects that discharge to the HTP. The ordinance established an annual sewage allotment of 5.0 MGD, of which 34.5 percent (1.7 MGD) is allocated for priority projects, 8.0 percent (0.4 MGD) for public benefit projects, and 57.5 percent (2.9 MGD), with a monthly allotment of at least 0.2 MGD for non-priority projects (of which 65 percent of this allocation is for residential projects and 35 percent for non-residential projects).

Before the Los Angeles Department of Building and Safety (LADBS) formally accepts a set of plans and specifications for a project for Plan Check, the Los Angeles Department of Public Works, Bureau of Sanitation (BOS) must first determine if there is allotted sewer capacity available for the project. The BOS will not make such a determination until LADBS has established that the project's plans and specifications are acceptable for Plan Check. If the BOS determines that allotted sewer capacity is available for the project, LADBS will accept the plans and specifications for Plan Check upon the payment of Plan Check fees. If the project is eligible to receive an allocation as a non-priority project, and the monthly sewage allotment has been used, then the project would be placed on a waiting list for the next month's allocation. At the request of a project applicant, LADBS may accept the project's plans and specifications as acceptable for Plan Check even if the project has been placed on the waiting list, and a sewer permit has not yet been obtained from BOS, with the understanding that the project will not be able to connect to the City's wastewater system until capacity is available, and a sewer permit issued.

b) Existing Conditions

i) Regional

Wastewater generated within the western portion of the County and the greater City metropolitan area is treated at the HTP, which, as discussed previously, has the capacity to treat approximately 450 MGD of wastewater to full secondary treatment level and currently treats 340 MGD.[113]

Wastewater conveyed into the HTP initially passes through screens and basins to remove coarse debris and grit. Primary treatment consisting of a physical separation process is then conducted where solids are allowed to either settle to the bottom of tanks or float on the surface. These solids (called sludge) are collected, treated, and recycled. The liquid portion that remains (called primary effluent) is treated through a secondary treatment using a natural biological process. Living microorganisms are added to the primary effluent to consume organic constituents. These microorganisms are later harvested and removed as sludge. After secondary treatment is completed, the treated effluent is conveyed approximately five miles offshore at a depth of approximately 200 feet. As this treated effluent enters the ocean environment, it is diluted at a ratio of over 80 parts seawater to one part treated effluent at the discharge

[112] *This ordinance is also known as the Sewer Allocation Ordinance.*

[113] *Hyperion Sewage Treatment Plan, http://www.lastormwater.org/Siteorg/general/hypern1.htm, July 2008.*

point. Monitoring occurs throughout the treatment process and after the treated effluent is discharged into the marine environment.

The sludge that is collected at the plant is also treated. The sludge is anaerobically digested to reduce its volume and to produce reusable methane gas for energy use. Excess water that remains in the digested sludge is separated by centrifuge type dewatering equipment. The resultant material is reused in a variety of beneficial methods. At present, 100 percent of the sludge is beneficially reused, either as an agricultural soil amendment, compost, fuel source in an energy recovery system, or a chemically treated soil substitute for landfill cover.

In addition to the HTP, the City operates other plants that serve the region, including the TWRP, which uses a conventional activated sludge process with dual filters to produce treated effluent to a tertiary level that meets the State of California's more stringent requirements for recycled water use. The City provides recycled water throughout its service areas that can be used for irrigation, commercial toilets, or industrial purposes from the reclamation plant. The remaining sludge is returned to the TWRP main sewer outfall for final treatment at the HTP. The primary responsibility of the BOS is to collect, clean, and recycle solid and liquid waste generated by residential, commercial, and industrial users in the City and surrounding communities. The BOS carries out its responsibilities by the management and administration of three primary programs: 1) wastewater collection, conveyance, treatment, and disposal; 2) solid resources collection, recycling, and disposal; and 3) watershed protection.

ii) Local

Sewer lines in the vicinity of the Project Site include a 21-inch-diameter line in Bluffside Drive, flowing northeasterly, and two lines, varying in size from 12 to 18 inches in diameter depending on location, in Lankershim Boulevard, flowing northerly. These three lines converge in the vicinity of the Lankershim Boulevard and Valleyheart Drive intersection into a 21-inch-diameter, 170-foot-long sewer, which outfalls into a 27-inch-diameter sewer in Lankershim Boulevard that ultimately flows to a 72-inch-diameter relief sewer located adjacent to the Los Angeles River Flood Control Channel (LARFCC). The BOS operates the 72-inch-diameter relief sewer that conveys wastewater to the HTP. The BOS representatives report that their trunk sewer system (which includes this relief sewer line) is currently flowing at a rate of 53 percent capacity.

iii) On-Site

The Project Site has multiple sewer lateral connections to the existing 12-inch-diameter sewer in Lankershim Boulevard that serve the small restroom facility on Site C of the Project Site.

3. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

The *City of Los Angeles CEQA Thresholds Guide* (2006, page M.2-3) states that a project would normally have a significant wastewater impact if:

- The Project would cause a measurable increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained; or
- The Project's additional wastewater flows would substantially or incrementally exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in the Wastewater Facilities Plan or General Plan or its elements.

b) Project Design Features

The Project Applicant has incorporated the following Project Design Features (PDFs) related to sewer service:

- As part of the normal construction/building permit process, the Project Applicant shall confirm with the City that the capacity of the local and trunk lines are sufficient to accommodate the Project's sewer flows during the construction and operation phases.
- The Project Applicant shall implement any upgrades to the sewer system serving the Project that could be needed to accommodate the Project's sewer generation.

The Project Applicant shall additionally implement the water conservation measures described in the previous subsection that would also reduce sewer flows.

c) Project Impacts

i) Construction

During the Project's construction phase, temporary dewatering would be required on Sites A and B to develop the subterranean parking. The dewatering activities would result in the extraction of a total of approximately 597,000 gpd or 1.83 AF per day. The dewatering flows would be discharged to either the local storm drain or the sanitary sewer. If discharged to the sanitary sewer, as part of the construction permit process and as a PDF, the Project Applicant would confirm with the City that the capacity of the sewer lines serving the site are sufficient to accommodate the dewatering flows and would implement any upgrades that are necessary. The HTP has adequate treatment capacity to accommodate the Project's dewatering flows. (Project impacts related to storm drain capacity are addressed in Section IV.L.1, Hydrology.) Therefore, Project impacts related to wastewater service during the construction phase would be less than significant.

ii) Operation

Implementation of the Project would increase the average and peak daily wastewater flows from the Project Site. As shown on Table IV.J-5, the average wastewater generation associated with Project build-out is approximately 272,624 gallons per day (gpd) for Project Phases 1 and 2, Option A, and 331,606 gpd for Project Phases 1 and 2, Option B.[114]

[114] *Refer to Section II, Project Description, for a description of Options A and B.*

Table IV.J-5
Estimated Average Daily Wastewater Generation

Project Phase	Facility Description	Size	SFC Flow Rate[1] (gpd)	Flow (gpd)
Phase 1, Site A	Office Tower	655,200 sf	180/1,000 sf	117,936
	Audience Viewing Room	600 seats	4/seat	2,400
	Media Production	285,000 sf	80/1,000 sf	22,800
	Garage	459,200 sf	20/1,000 sf	9,184
	Retail	17,500 sf	80/1,000 sf	1,400
	Restaurant	225 seats	30/seat	6,750
Phase 1, Site B	Garage	599,800 sf	20/1,000 sf	11,996
			Phase 1, Total Flow	***172,466***
Phase 2, Option A Site C	Office Tower	489,100 sf	180/1,000 sf	88,038
	Garage	606,000 sf	20/1,000 sf	12,120
			Phase 2, Option A Total Flow	***100,158***
Phase 2, Option B Site C	Residential Units	400 du	160/du	64,000
	Hotel	300 rooms	260/room	78,000
	Hotel Health Club	1,000 sf	800/1,000 sf	800
	Hotel Conference Room/Lounge	8,000 sf	80/1,000 sf	640
	Hotel Restaurant	50 seats	30/seat	1,500
	Garage	710,000 sf	20/1,000 sf	14,200
			Phase 2, Option B Total Flow	***159,140***
			PHASES 1 & 2, OPTION A, TOTAL FLOW	**272,624**
			PHASES 1 & 2, OPTION B, TOTAL FLOW	**331,606**

[1] *City of Los Angeles, Bureau of Engineering, Sewer Generation Rates.*
Source: Psomas 2008.

The BOS has determined that the public sewers adjacent to the Project Site, as well as the 72-inch-diameter trunk line, have sufficient capacity remaining to serve the Project, with the following requirements:[115]

- Flows from Sites A and B (Phase 1) shall be conveyed to the existing 21-inch-diameter sewer in Bluffside Drive.
- Flows from Site C (Phase 2) shall be conveyed to the existing 12-inch-diameter sewer in Lankershim Boulevard.
- No flows from Sites D and E exist or would occur under the Project.

City correspondence states that at the time of construction, if additional development occurs in the Project area that adds to the existing volume of wastewater flows, and if due to these additional flows, the existing local lines described previously do not have sufficient capacity, then a secondary public works main could be required to the 27-inch-diameter or 72-inch-diameter sewers, which do have sufficient

[115] *City of Los Angeles Department of Public Works, Bureau of Sanitation, Metro Universal Project "Will Serve" Letter, May 11, 2008.*

capacity.[116] In the event that additional wastewater flow capacity is needed to serve the Project, an additional 12-inch-diameter relief sewer would be installed parallel to the existing 170-foot-long, 21-inch-diameter sewer near the Lankershim Boulevard and Valleyheart Drive intersection.

Additionally, the HTP has a remaining available treatment capacity of approximately 110 MGD, which could more than accommodate the Project's worst-case scenario wastewater generation of 0.331 MGD. Thus, no new or additional wastewater treatment facilities would be required for the Project. Therefore, Project impacts related to sewer service would be less than significant.

4. CUMULATIVE IMPACTS

The Project, in conjunction with related projects identified in this EIR and other expected growth within the area served by the HTP will result in cumulative increases in wastewater generation. However, increased wastewater flows throughout the HTS are addressed in the IRP, which has determined that existing wastewater processing facilities are sufficient to handle projected flows through 2020. The IRP provides for development of additional wastewater treatment if triggered by an increase in population (beyond what is projected), regulations, and/or groundwater replenishment needs. These "Go-If-Triggered" projects include the potential expansion and upgrade of the TWRP to accommodate up to 100 MGD of wastewater.[117] If expansion of existing facilities is required, the environmental impacts of this activity already have been addressed in the Draft and Final EIRs prepared for the IRP, which are hereby incorporated by reference.[118]

As noted above, the City Council suspended the GBIS portion of the IRP, and according to the IRP, the GBIS is a longer term improvement needed to "relieve the system capacity and prevent spills during wet weather in the year 2020…" The IRP assumed that BOS would not complete the GBIS until early 2016. Considering that the buildout year for the Project and the related projects identified in the EIR is 2015, any potential delay in the GBIS would not affect the availability of the sewer capacity for the Project and related projects. As such, the analysis of cumulative impacts related to wastewater treatment capacity above, relies on the IRP and its conclusions.

Therefore, the Project would not contribute to cumulatively considerable impacts related to sewer and wastewater processing.

---

[116] *Ibid.*

[117] *City of Los Angeles, Integrated Resources Plan, Executive Summary, December 2006, page 15.*

[118] *City of Los Angeles, Department of Public Works, Bureau of Sanitation and Department of Water and Power, Integrated Resources Plan, Draft (November 2005) and Final (September 2006) Environmental Impact Reports, certified November 14, 2006. These documents are available for review during normal business hours at the Department of City Planning, City of Los Angeles, City Hall, 200 N Spring St, Room 601, Los Angeles, CA 90012.*

5. MITIGATION MEASURES

Because no significant impacts related to sewer service have been identified, no mitigation measures are required.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No mitigation measures are required, and impacts related to sewer service would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
J. UTILITIES
3. SOLID WASTE

Organization of the Subsection

1. ENVIRONMENTAL SETTING

a) Regulatory Setting

i) California Integrated Waste Management Act of 1989 (AB 939)

ii) City Regulatory Framework

iii) City Solid Waste Management Policy Plan (CiSWMPP) and Source Reduction and Recycling Element (CiSRRE)

iv) City General Plan Framework Element (Framework Element)

v) City Solid Resources Infrastructure Strategy Facilities Plan

vi) City Municipal Code

vii) RENEW LA Plan

b) Solid Waste Collection and Disposal

i) Landfills

(1) Chiquita Canyon Landfill

(2) Sunshine Canyon Landfill

(3) Additional Landfill Disposal Options

(4) Inert Waste Landfills

c) Recycling Facilities

i) City of Los Angeles

2. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

b) Project Impacts

i) Project Design Features

ii) LEED Certification

iii) Construction

iv) Operation

3. CUMULATIVE IMPACTS

a) Construction Waste

b) Operational Waste

4. MITIGATION MEASURES

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

1. ENVIRONMENTAL SETTING

a) Regulatory Setting

i) California Integrated Waste Management Act of 1989 (AB 939)

The California Integrated Waste Management Act of 1989 (AB 939) and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, were enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible. Specifically, AB 939 requires city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by 2000. AB 939 also requires each city and county to promote source reduction, recycling, and safe disposal or transformation. Cities and counties are required to maintain the 50 percent diversion specified by AB 939 past the year 2000.

AB 939 further requires each city to conduct a Solid Waste Generation Study and to prepare a Source Reduction and Recycling Element (SRRE) to describe how the city would reach the goals. The SRRE contains programs and policies for fulfillment of the goals of AB 939, including the above-noted diversion goals, and must be updated annually to account for changing market and infrastructure conditions. As projects and programs are implemented, the characteristics of the waste stream, the capacities of the current solid waste disposal facilities, and the operational status of those facilities are upgraded, as appropriate. California cities and counties are required to submit annual reports to the California Integrated Waste Management Board (CIWMB) to update it on their progress toward

attainment of the AB 939 goals (i.e., source reduction, recycling and composting, and environmentally safe land disposal).[119]

ii) City Regulatory Framework

Within the City, solid waste management is governed by several Citywide plans including the City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP), the Source Reduction and Recycling Element (CiSRRE), the General Plan Framework Element (Framework Element), the Solid Resources Infrastructure Strategy Facilities Plan, and the City of Los Angeles Municipal Code, each of which is discussed below.

iii) City Solid Waste Management Policy Plan (CiSWMPP) and Source Reduction and Recycling Element (CiSRRE)

The CiSWMPP, adopted in November 1994, is the long-range solid waste management policy plan for the City, while the CiSRRE, updated in 2001, is the strategic action policy plan for diverting solid waste from landfills. The objective of the CiSWMPP is to reduce at the source or recycle a minimum of 50 percent of the City's waste by 2000, or as soon as possible thereafter. The CiSWMPP calls for the disposal of the remaining waste in local and possibly remote landfills. The CiSWMPP establishes a City-wide diversion objective of 70 percent by 2020. The CiSWMPP provides direction for solid waste management and integrates all facets of solid waste management planning. It ensures that disposal practices do not conflict with diversion goals. It also serves as an umbrella document for the CiSRRE as well as other City-wide solid waste management planning activities.

The following five goals of the CiSWMPP reflect the importance of source and materials recovery to the success of the plan and, therefore, the intent of the City to follow state regulations:

- To create an integrated solid waste management system that maximizes source reduction and materials recovery and minimizes waste requiring disposal;
- To expand the siting of facilities that enhance waste reduction, recycling, and composting throughout the City beyond the current limits of the zoning code in ways that are economically, socially, and politically acceptable;
- To ensure that all mixed solid waste that cannot be reduced, recycled, or composted is collected, transferred, and disposed in a manner that minimizes adverse environmental impacts;
- To develop an environmentally sound solid waste management system that protects public health and safety, protects natural resources, and utilizes the best available technology to accommodate the needs of the City; and
- The City shall operate a cost-effective integrated waste management system that emphasizes source reduction, recycling, reuse, and market development and is adequately financed to meet operational and maintenance needs.

[119] *California Public Resources Code, §40050 et seq.*

The City surpassed the State-mandated 50 percent diversion rate for the year 2000 and achieved a preliminary diversion rate of 56 percent in 2005.[120] In addition, in 1999, the Mayor directed City departments to develop strategies to achieve the Citywide recycling goal of 70 percent by 2020.[121]

iv) City General Plan Framework Element (Framework Element)

The Framework Element is a strategy for long-term growth that sets a City-wide context to guide the update of Community Plan and Citywide General Plan elements. The Framework Element responds to State and Federal mandates to plan for the future. In planning for the future, the City uses population forecasts provided by the Southern California Association of Governments (SCAG). The Framework Element supports AB 939 and its goals by encouraging "an integrated solid waste management system that maximizes source reduction and materials recovery and minimizes the amount of waste requiring disposal."[122] Source reduction programs encouraged in the Framework Element include home composting, recycling programs such as the Curbside Recycling Program, and composting programs. The Framework Element suggests that for these programs to succeed, the City should site businesses at appropriate locations within its borders that handle, process, and/or manufacture recyclable commodities to allow a full circle recycling system to develop. It also discusses how Recycling Market Development Zones and other development zone areas should be utilized to bring these beneficial businesses into Los Angeles, and suggests that development and support of recyclable materials markets is one of the City's challenges in the years ahead. The Framework Element addresses the means for dealing with the solid waste remaining after diversion, for which the City will have a continuing need for solid waste transfer and disposal facilities. It states that the capacity of the landfills located in Los Angeles is very limited, and that more transfer facilities will be needed to transfer waste from the collection vehicles and transport it to other, more remote landfill facilities. The Framework Element acknowledges that capacity must be provided for the waste collected by both City agencies and private collection companies and identifies several landfill disposal facilities that may be accessed by truck. The Framework Element also identifies other landfill disposal facilities that would require the City to ship its solid waste by train.

v) City Solid Resources Infrastructure Strategy Facilities Plan

In its efforts to reach AB 939 goals and conform to the Framework Element, the City's Bureau of Sanitation prepared the Solid Resources Infrastructure Strategy Facilities Plan in 2000, which outlines several objectives, including but not limited to, the following:

- Develop a transfer facility and/or recycling center in the Central Los Angeles Area;

---

[120] *State of California, Integrated Waste Management Board, Countywide, Regionwide, and Statewide Jurisdiction Diversion Progress Report: Los Angeles, Report Year: 2005, website: http://www.ciwmb.ca.gov/LGTools/mars/JurDrSta.asp?VW=In, October 9, 2007.*

[121] *City of Los Angeles Department of Public Works, Bureau of Sanitation, Solid Resources Program Fact Sheet, website: http://www.lacity.org/SAN/factsht.htm, October 9, 2007.*

[122] *City of Los Angeles, Department of City Planning, Citywide General Plan Framework, 1996, page 9-11.*

- Continue to research and develop the use of Material Recovery Facilities to preprocess all residual waste prior to delivery to a disposal site; and
- Develop a comprehensive and continual public education and community outreach program designed to educate and inform the public about the City's solid resources programs and strategies.[123]

In addition to the preceding list of objectives, the Bureau of Sanitation also operates programs such as bulky item pick-ups, E-waste collection events, and curbside recycling. The curbside recycling program collects recyclables from all single-family homes in the City, but does not provide service to multi-family buildings of four units or more. However, the Bureau of Sanitation conducted a Multi-Family Recycling Pilot Program involving five buildings and 76 units in Council District 8 during the year 2005. The Bureau of Sanitation is currently looking at ways to provide recycling services for the approximately 650,000 multi-family residences in the City.[124]

vi) City Municipal Code

Solid waste recycling within the City is also addressed via provisions set forth in various sections of the City of Los Angeles Municipal Code (LAMC) that were enacted via the City of Los Angeles Space Allocation Ordinance (Ordinance No. 171,687, August 6, 1997). In addition to setting forth standards for the location and operating characteristics of recycling centers and processing facilities, the Ordinance also sets forth the requirements for the inclusion of recycling areas within individual development projects. In accordance with the Space Allocation Ordinance, all new construction development projects, multi-family residential development projects of four or more units where the addition of floor area is 25 percent or more, and other development projects where the addition of floor area is 30 percent or more shall provide an adequate Recycling Area or Room for collecting and loading recyclable materials.

vii) RENEW LA Plan

In March 2006, the City Council unanimously adopted RENEW LA, a 20-year plan to permanently alter waste disposal in the City. The primary goal of the plan is to shift from waste disposal to resource recovery, resulting in "zero waste" and an overall diversion level of 90 percent. The "blueprint" of the plan lays out a course of action to achieve this goal by building on the key elements of existing reduction and recycling programs and infrastructure, and combines them with new systems and conversion technologies (CTs) to achieve an unparalleled level of resource recovery (without combustion) in the form of traditional recyclables; soil amendments; and renewable fuels, chemicals, and energy. The plan

[123] *City of Los Angeles Department of Public Works, Solid Resources Infrastructure Strategy Facilities Plan, November 2000, website: http://www.lacity.org/SAN/isfp/isfp.pdf, October 9, 2007.*

[124] *City of Los Angeles Department of Public Works Bureau of Sanitation, Overview of Services FY 2005/ 2006 website: http://www.lacity.org/SAN/bureau-overview-05-06.pdf, October 9, 2007.*

also calls for massive reductions in the quantity and environmental impacts of residue material disposed in landfills.[125]

b) Solid Waste Collection and Disposal

Waste disposal sites or landfills serving the City and the County are operated by the County as well as by private companies. In addition, transfer stations are used to temporarily store debris until larger haul trucks are available to transport the materials directly to the landfills. The great majority of municipal solid waste disposed of in the County is disposed at Class III landfills (municipal solid waste landfills), facilities for non-hazardous, household waste. Unclassified or inert landfills are defined as facilities that accept materials such as soil, concrete, asphalt, and other construction and demolition debris.

The County of Los Angeles Department of Public Works, in May 2007, issued the *Countywide Summary Plan and Countywide Siting Element* (2005 Annual Report), which serves as the primary planning document for the County's waste disposal needs, including solid waste generated throughout the City. Over 250 private waste haulers currently collect solid waste in the County area and in the majority of the cities within the County. In most cases, the waste is hauled directly to the major Class III landfills, although the remainder is taken to transfer stations, resource recovery centers, or waste-to energy facilities. The 2005 Annual Report stated that, in 2005, residents and businesses of the County disposed of approximately 9,110,300 tons of waste at in-County Class III landfills, 548,300 tons of waste at transformation facilities, 1,247,500 tons at unclassified landfills (inert waste only), and 2,308,200 tons of waste were exported to out-of-county Class III landfills. These disposal quantities total approximately 13,214,300 tons of waste over the year, or 42,360 tons per day (tpd).[126]

Landfill availability is limited by several factors, including: (1) restrictions to accepting waste generated only within a landfill's particular jurisdiction and/or watershed boundary; (2) tonnage permit limitations; (3) types of waste; and (4) operational constraints. Remaining landfill capacity in facilities located within the County is declining, and, as a result, a shortage of solid waste disposal capacity within the County continues. Based on the results of the 2005 Annual Report, the remaining permitted Class III landfill capacity in the County was estimated at 102 million tons (168 million cubic yards), which, based on the average 2005 disposal rate of 39,380 tpd at Class III landfills, would be exceeded by 2014. However, the remaining permitted combined unclassified landfill capacity in the County for 2005 was estimated at 47.02 million tons (51.43 million cubic yards). At the 2005 average rate of disposal of 478 tpd (0.169 million tons per year) at these unclassified landfills, this capacity would not be exceeded for 278 years. In addition, the solid waste disposal needs of both the City and the County are increasingly being met by

---

[125] *City of Los Angeles Council District 12, http://www.lacity.org:80/council/cd12/renewla/cd12renewla243131041_07142005.pdf, December 05, 2007.*

[126] *County of Los Angeles, Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan 2005 Annual Report on the Countywide Summary Plan and Countywide Siting Element, February 2006.*

landfill facilities located outside the County. In 2005, approximately 22.7 percent of the County's solid waste disposal needs were met by landfill facilities located outside of the County. Due to the difficulties of establishing new landfills or expanding existing landfills, it is forecasted that increasing amounts of the County's solid waste disposal will occur at out-of-County landfills in the future.[127]

The 2005 Annual Report provided an analysis under five landfill scenarios for the County that range from status quo (i.e., no new landfills or expansions of existing landfills in the County), to scenarios in which the County successfully permits and develops all in-County landfill expansions as well as utilizes out-of-County disposal facilities. Based on this analysis, the 2005 Annual Report concludes that while the County would be unable to adequately provide for the solid waste disposal needs of all 88 cities and the unincorporated County areas through the 15-year planning period under current conditions, the County would be able to provide for its 15-year disposal needs by successfully permitting and developing all in-County landfill expansions and utilizing out-of-county disposal facilities.

i) Landfills

Solid waste from the Project area is transported for disposal to the Chiquita Canyon and Sunshine Canyon Landfills by private waste haulers.

(1) Chiquita Canyon Landfill

The Chiquita Canyon Landfill, owned and operated by Republic Services of California, covers 135 acres of land located in Valencia, an unincorporated area of the County. As of January of 2005, the Chiquita Canyon Landfill had a remaining permitted capacity of 13.74 million tons (19.63 million cubic yards) with a daily permitted intake of 6,000 tons and 30,000 tons per week. The Chiquita Canyon Landfill currently accepts an average of 4,910 tons per day and, therefore, has a remaining daily capacity intake of 1,090 tons (refer to Table IV.J-6). Chiquita Canyon Landfill is currently permitted through 2019. However, in 2005 the landfill owner/operator submitted a Conditional Use Permit (CUP) application for a proposed horizontal and vertical expansion increase in disposal area of 98 acres to take effect in 2008. Under the CUP, the daily disposal capacity would remain at 6,000 tpd, but the long-term capacity would be increased to 32 million tons.

2. *Sunshine Canyon Landfill*

The Sunshine Canyon Landfill is owned and operated by Browning-Ferris Industries, which purchased the landfill from the City in 1978. The landfill serves both the County and City and is divided into the "County side" and the "City side." In 1991, the operating permit for the landfill expired and operations ceased. The County Board of Supervisors issued a CUP in 1993 to allow the continued operation at the Landfill on the County portion of the site. As one of the conditions of the permit, Browning-Ferris Industries had to obtain approval from the City to operate in its half of the landfill thereby establishing a City/County landfill. In 1996, landfill operations on the County side of the landfill resumed with an approximate 6,600 tons per day capacity with an expected 10-year life span. In 1999, the City granted a

[127] *Ibid.*

CUP for the proposed landfill expansion on the City side of the landfill (Phase 1 of City Landfill Unit 2). Additionally, the City approved a general plan amendment to the Granada Hills-Knollwood Community Plan from Open Space to Heavy Industrial and a zone change from A1-1K-O to M3-1 on 394 acres in Sunshine Canyon to allow for the landfill expansion. During this process, the City required completion of a Subsequent Environmental Impact Report (SEIR) that assessed in detail the plan for the combined City/County landfilling operation proposed by the Board of Supervisors in 1993. The combined City/County Landfill will provide approximately 25 years of waste disposal capacity at a maximum 12,100 tpd. On February 6, 2007, the County Board of Supervisors approved a replacement CUP to the landfill's County land use permit that will allow for this joint City/County operation. As of December 31, 2005, the Sunshine Canyon Landfill had approximately 1.95 million tons of remaining capacity and a permitted maximum daily intake of 6,600 tons per day.[128] Sunshine Canyon Landfill currently accepts approximately 4,521 tpd.

Table IV.J-6
Landfill Capacity and Intake

Landfill Facility	Estimated Closure Date	Permitted Daily Intake (tpd)	Average Daily Intake (tpd)	Remaining Permitted Daily Intake (tpd)
Chiquita Canyon Landfill [a]	2019	6,000	4,910	1,090
Sunshine Canyon Landfill [b]	2029	5,500	4,711	789
Antelope Valley Recycling & Disposal Facility [c]	2028	5,000	1,186	3,814
Lancaster & Recycling Facility [a]	2035	1,700	1,490	210
			Total Remaining Intake	**5,903**

[a] *County of Los Angeles, Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan 2005 Annual Report on the Countywide Summary Plan and Countywide Siting Element, February 2006.*
[b] *Sunshine Canyon Landfill, About Sunshine Canyon Landfill, History, website: http://www.sunshinecanyonlandfill.com, accessed October 24, 2007.*
[c] *Antelope Valley Recycling & Disposal Facility, personal communication with CAJA staff, January 18, 2008.*

(1) Additional Landfill Disposal Options

In March 2006, the City Council voted to divert disposal of 600 tons of solid waste per day from the Sunshine Canyon Landfill to landfills located outside City limits. As such, it is possible that all or a portion of Sunshine Canyon Landfill's remaining capacity would not be available to new development (including the Project). In this event, other options for landfill disposal for City-generated solid waste include the use of transfer stations that would collect, consolidate, transport, and dispose of solid waste at available landfills. A transfer station is a waste facility used to transfer waste from collection vehicles to a bulk haul vehicle in order to achieve long-distance transportation efficiency. Given the location of the Project Site, the nearest and most likely transfer stations to serve the Project Site would be in Sun Valley, approximately eight miles to the north of the Project Site and directly served by the Ventura Freeway

[128] *State of California Integrated Waste Management Board, Solid Waste Information System, Facility/Site Search, website: http://www.ciwmb.ca.gov/SWIS/, accessed July 17, 2007.*

(SR-170). The transfer stations in Sun Valley that could be used by the Project include American Waste Industries, Sun Valley Paper Stock Materials Recovery Facility and Transfer Station, and Community Recycling/Resource Recovery, Inc. (refer to Table IV.J-6). Additionally, a transfer station is proposed as part of the transition of Bradley Landfill from a Class III (non-hazardous) municipal solid waste (MSW) disposal and recycling facility to a transfer station and materials recovery facility, expected to be operational in 2008-09. Additional details about the transfer stations are shown on Table IV.J-7. Waste collected at these transfer stations is transported to the Antelope Valley Recycling & Disposal Facility in Palmdale or the Lancaster Landfill & Recycling Center located in the City of Lancaster.

Table IV.J-7
Transfer Stations

Facility[1]	Permitted/Operational Agreement Capacity (tpd)	Current Average Daily Capacity (tpd)	Future Capacity (tpd)
American Waste Industries	15 (solid waste) 400 (construction debris)	Operates at capacity	1,500 by 2009
Sun Valley Paper Stock Materials Recovery Facility and Transfer Station	750 (resource recovery) 200 (solid waste)	Operates at half capacity; transfer building will be constructed 2009	750 (resource recovery) 200 (solid waste)
Community Recycling/Resource Recovery, Inc.	5,700 (solid waste)	Operates close to capacity	6,900 by 2010
Bradley Landfill Transfer Station and Materials Recovery Facility	4,000	Not operational	4,000 by 2008-09

[1] *These facilities are all currently in the process of preparing EIRs for expansion.*
Source: California Integrated Waste Board, http://www.ciwmb.ca.gov/SWIS/, December 1, 2007, and City of Los Angeles Environmental Affairs Dept., Dave Thompson, personal communication with CAJA staff, January 25, 2008.

The Antelope Valley Recycling & Disposal Facility is located in the City of Palmdale and is permitted to receive 1,400 tons of solid waste per day for Landfill I and 1,800 tons per day for Landfill II. As of 2005, the facility had a remaining disposal capacity of 10.21 million tons, with an average daily disposal of 1,186 tons.[129] An EIR is currently being prepared to address the proposed expansion of this facility to accommodate a combined total of 5,000 tpd. The anticipated completion of the expansion is 2010.[130] The Lancaster Landfill & Recycling Facility is located in the City of Lancaster and is permitted to receive 1,700 tons of waste daily and currently receives approximately 1,490 tpd. As of 2005, this facility had

[129] *County of Los Angeles, Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan 2005 Annual Report on the Countywide Summary Plan and Countywide Siting Element, February 2006.*

[130] *Antelope Valley Recycling & Disposal Facility, personal communication with CAJA staff, January 18, 2008.*

remaining disposal capacity of 17.8 million tons. Estimated remaining lives of these facilities are 23 years and 30 years, respectively.[131]

(2) Inert Waste Landfills

Inert solid waste (such as most demolition/construction debris) disposal is accommodated by the Peck Road Gravel Pit, which is located in the City of Monrovia. This landfill has a maximum daily intake of 1,210 tons (807 cubic yards) and a total remaining permitted inert waste capacity of approximately 9.7 million tons (6.5 million cubic yards). The average daily waste quantity disposed at the landfill in 2005 was 18 tons. Based on the current maximum daily disposal, the remaining permitted inert waste capacity at this landfill would be exhausted in approximately 26 years (i.e., by approximately 2031).

b) Recycling Facilities

i) City of Los Angeles

The City of Los Angeles Department of Public Works Bureau of Sanitation, Solid Resources Citywide Recycling Division (SRCRD) develops and implements source reduction, recycling, and composting programs in the City. The SRCRD provides technical assistance to public and private recyclers, oversees the City's recycling program, manages the Household Hazardous Waste (HHW) program, and helps create markets for recyclable materials.[132] The SRCRD provides information to public and private sectors regarding construction waste diversion through the publication of the *Construction and Demolition Recycling Guide* (the Guide), which is a directory of recyclers and certified mixed-debris processors that serve the Greater Los Angeles area. In addition to an alphabetical listing of companies, the Guide also provides listings by materials accepted (i.e., wood waste, scrap metal, drywall, etc.) so that developers and contractors can tailor their recycling choices to suit different project needs.

3. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

The *Los Angeles CEQA Thresholds Guide* (page M.3-2) states that a determination of significance relative to solid waste shall be made on a case-by-case basis, considering the following factors:

- Amount of projected waste generation, diversion, and disposal during demolition, construction, and operation of the project, considering proposed design and operational features that could reduce typical waste generation rates;

---

[131] *County of Los Angeles, Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan 2005 Annual Report on the Countywide Summary Plan and Countywide Siting Element, February 2006.*

[132] *City of Los Angeles, Dept. of Public Works, Bureau of Sanitation, Construction and Demolition Recycling Guide, updated October 5, 2006, website: http://www.lacity.org/san/solid_resources/pdfs/C&D_guide.pdf, October 16, 2007.*

- Need for an additional solid waste collection route, or recycling or disposal facility to adequately handle project-generated waste; and
- Whether the project conflicts with solid waste policies and objectives in the SRRE or its updates, CiSWMPP, Framework Element or Curbside Recycling Program, including consideration of the land use-specific waste diversion goals contained in Volume 4 of the SRRE.[133]

Based on all of these factors, the Project would have a significant impact if:

- The Project generates solid waste at a level that exceeds the available capacity of the existing and/or planned landfills.
- The Project conflicts with the diversion and recycling goals set forth in the CiSWMPP.

b) Project Impacts

i) Project Design Features

The Project Applicant has incorporated several Project Design Features (PDFs) targeted at reducing the Project's solid waste generation during Project construction as well as during long-term Project operations. Specifically, the Project Applicant would implement a demolition and construction debris recycling plan for all buildings constructed as part of the Project, with the explicit intent of requiring recycling during all phases of site preparation and building construction. In addition, the Project Applicant has committed to the following PDFs, which would be implemented for the sole purpose of reducing the Project's solid waste generation:

- A demolition and construction debris recycling plan shall be implemented during site preparation and building construction. Off-site recycling centers, such as asphalt or concrete crushers, would be utilized to provide crushed materials for roadbed base. In addition, trees unsuitable for relocation would be recycled and used for landscape mulch;
- All structures constructed or uses established within any part of the Project shall be designed to be permanently equipped with clearly marked, durable, source sorted recycling bins at all times to facilitate the separation and deposit of recyclable materials;
- Primary collection bins shall be designed to facilitate mechanized collection of such recyclable wastes for transport to on- or off-site recycling facilities; and
- The Project Applicant shall continuously maintain in good order clearly marked, durable, and separate recycling bins on the same lot or parcel to facilitate the deposit of recyclable or commingled waste metal, cardboard, paper, glass, and plastic therein; maintain accessibility to such bins at all times for the collection of such wastes for transport to on- or off-site recycling

[133] *Waste diversion goals have been identified for a limited number of targeted waste generators and materials. Future updates of the SRRE may expand the land uses and materials covered, or modify the current waste diversion goals.*

plants; and require waste haulers to utilize local or regional material recovery facilities as feasible and appropriate.

ii) LEED Certification

The Project Applicant is pursuing LEED certification for New Construction. Material and Resources credits for LEED certification applicable to the diversion of waste generated by the Project that is hauled to and disposed of in landfills fall in two categories: 1) Storage and Collection of Recyclables, and 2) Construction Waste Management. In addition to the PDFs described above, during its long-term operational phase, the Project would provide a recycling collection and storage program for non-hazardous waste by dedicating recycling areas for glass, plastic, paper, aluminum, as well as employing techniques for individual workstations such as cardboard balers, aluminum can crushers, recycling chutes, and collection bins. The Project's construction waste management program consists of recycling and/or salvaging at least 50 percent and up to 95 percent of non-hazardous materials during construction and demolition. The Project would also implement recycling during construction, such as recycling concrete cylinder test samples and steel reinforcing bars.

iii) Construction

The Project includes removal of all existing parking areas and landscaping on Sites A, B, C, and E. The primary types of demolition debris that would be removed from the sites would include cement, asphalt, and plant materials. As shown on Table IV.J-8, the Project's demolition phase would generate approximately 23,619 tons of debris, primarily consisting of asphalt and cement. During the construction phase of the Project, construction-related debris would primarily include scrap lumber, metal, and masonry materials. The Project's construction phases would generate approximately 3,026 tons of debris as a result of Phases 1 and 2, Option A, and approximately 3,795 tons as a result of Phases 1 and 2, Option B (refer to Table IV.J-8).

Demolition and construction debris associated with the Project would primarily be classified as inert waste and would be disposed of at Peck Road Gravel Pit. As stated previously, this landfill has a maximum daily intake of 1,210 tons (807 cubic yards) and a total remaining permitted inert waste capacity of approximately 9.7 million tons (6.5 million cubic yards). Conservatively assuming that none of the construction debris would be recycled, this facility would have adequate capacity to accommodate the Project's construction waste. Excavated dirt most likely would be disposed at the Puente Hills Landfill in Whittier or Nu-Way Live Oak Landfill in Baldwin Park and would be used to accommodate requirements for landfill cover. As noted above, a demolition and construction debris recycling plan shall be implemented during site preparation and building construction. Therefore, the Project's construction related impacts to solid waste would be less than significant.

Table IV.J-8
Approximate Project Demolition and Construction Waste Generation

Existing Land Use		Size (sf)	Generation Rate (tons/sf)[a]	Total (tons)
DEMOLITION[b]				
On Site	Site A-Parking	118,809	0.75	6,438
	Site B- Parking	66,839	0.75	3,622
	Site C- Parking	81,736	0.75	4,429
	Site D-Parking	0	0	0
	Site E-Parking	7,600	0.75	412
	Existing Landscape	10,300	0.75	558
Off Site	Bluffside Drive – Street	32,565	0.75	1,765
	Weddington Park (South) – Access and Parking	40,547	0.75	2,197
	Lankershim Boulevard – Street & Utilities	15,075	1.67	1,880
	Campo de Cahuenga Way – Street	16,225	1.67	1,958
	NB Hollywood Freeway Off-ramp/Lankershim Boulevard – Street	3,000	1.67	362
			Total Demolition	***23,619***
CONSTRUCTION				
Phase 1	Non-Residential	2,031,700	0.000973[c]	1,977
Phase 2, Option A	Non-Residential	1,078,500	0.000973[c]	1,049
Phase 2, Option B	Residential	445,000	0.00219[c]	975
	Non-Residential	866,000	0.000973[c]	843
			Total Construction Debris for Phase 2, Option B	1,818
			Total Construction Debris for Phases 1 & 2, Option A	**3,026**
			Total Construction Debris for Phases 1 & 2, Option B	**3,795**

[a] *Waste generation includes all materials discarded, whether or not they are later recycled or disposed of in a landfill.*
[b] *Source: The Moote Group, November 21, 2007.*
[c] *U.S. Environmental Protection Agency, Report No. EPA530-98-010, Characterization of Building-Related Construction and Demolition Debris in the United States, June 1998, page A-1.*

iv) Operation

Operation of the Project would result in an ongoing generation of solid waste at the Project Site. Over the lifetime of the Project, the Project would be expected to generate approximately 13.36 tpd of solid waste for Phases 1 and 2, Option A, and approximately 13.15 tpd for Phases 1 and 2, Option B (refer to Table IV.J-9). This calculation of the Project's estimated solid waste generation is conservative and does not take into consideration the City's successful efforts to divert disposal of solid waste by 50 percent, in compliance with AB 939. Additionally, the calculation does not take into consideration the reduction in landfill disposal due to the City's current and future efforts to achieve a "zero waste" level (a 90 percent diversion rate) by the year 2025. Thus it is likely that much of the Project's future solid waste would not be disposed of in landfills. However, for the purposes of this analysis and to provide for a worst-case scenario, it is assumed that all of the Project's solid waste would be disposed of in landfills.

Table IV.J-9
Estimated Solid Waste Generation

Project Phase/Option	Land Use	Size	Generation Rate (tons/day)[a]	Total Generation (tons/day)
Phase 1	Office	665,200 sf	0.000003/sf	1.99
	Media Center	315,000 sf	0.0000313/sf	9.85
	Retail/Restaurant	25,000 sf	0.000002/sf	0.05
			Total Phase 1	*11.89*
Phase 2, Option A	Office	489,100 sf	0.000003/sf	1.47
Total Phases 1&2, Option A				**13.36**
Phase 2, Option B	Residential Units	400 du	0.002/du	0.8
	Hotel	300 rm	0.001/rm	0.3
	Ancillary to Hotel	80,000 sf	0.000002/sf	0.16
			Total Phase 2, Option B	*1.26*
			Total Phases 1&2, Option B	**13.15**

[a] *Solid waste generation rates provided by City of Los Angeles Department of Public Works, Bureau of Sanitation, Solid Waste Generation, 1981.*

As indicated on Table IV.J-3, the remaining combined daily capacity of the landfills that would directly serve the Project (i.e., Chiquita Canyon Landfill and Sunshine Canyon Landfill) is 1,879 tons. If the remaining daily capacity at Sunshine Canyon Landfill would not be available for the Project due to current diversion efforts, the remaining daily capacity at Chiquita Canyon Landfill would be 1,005 tons. The addition of Antelope Valley Recycling & Disposal Facility and Lancaster Landfill & Recycling Center would increase the daily disposal capacity available to the Project by 3,235 tons (excluding the capacity at Sunshine Canyon Landfill). As such, the remaining daily landfill capacity available to the Project would be more than adequate to accommodate the Project's approximate 13.36 tons of solid waste per day in the near and mid-term. However, the landfills that would serve the Project (Chiquita Canyon and Sunshine Canyon) are anticipated to close by 2019 and 2029, respectively. It is likely that other landfills, transfer stations, and other solid waste disposal facilities would be opened prior to such time. Nonetheless, since no such facilities are currently identified, this analysis conservatively concludes that the Project's impacts related to solid waste would be significant.

4. CUMULATIVE IMPACTS

a) Construction Waste

The Project in combination with the 188 identified, related projects would generate an increase in construction-related (i.e., inert) waste during the temporary construction period for each project. As shown on Table IV.J-10, the Project and the related projects would cumulatively generate approximately 58,229 tons of construction debris over the life cycles of all the construction projects. Similar to the Project, any soil excavated the sites of the related project would be disposed of at local landfills and would be used to accommodate requirements for landfill cover. The calculation of construction-related debris for the related projects does not include demolition debris, because this calculation cannot be

reasonably calculated at this time. However, using the proposed Project as an example, for the purposes of this analysis and to capture potential demolition debris tonnage generated by related projects, it is assumed that construction debris would equal 16 percent of the total amount of demolition and construction debris generation. Thus, it is assumed that the related project would generate approximately 285,783 tons of demolition debris, for a combined total of approximately 340,218 tons of demolition and construction debris. Therefore, the estimated cumulative total demolition and construction debris calculation is 344,013 tons.

Table IV.J-10
Projected Cumulative Construction-Related Solid Waste Generation

Land Use	Size (sf)	Generation Rate (tons/sf) a	Total (tons)
Residential	11,261,990[b]	0.00219	44,827
Non-Residential	11,356,725	0.000973	10,607
		Related Projects Total	***54,434***
		Total Proposed Project Construction Debris (Phases 1 & 2, Option B)	*3,795*
		Cumulative Total	**58,229**

[a] *U.S. Environmental Protection Agency, Report No. EPA530-98-010, Characterization of Building-Related Construction and Demolition Debris in the United States, June 1998, page A-1.*

[b] *Because specific unit size was not available for all related residential projects, all dwelling units are assumed to be 1,000 sf/unit. This calculation also assumes 3,729,990 sf of residential development that is part of the proposed Universal Vision Plan project.*

Notes: sf=square feet. Waste generation includes all materials discarded, whether or not they are later recycled or disposed of in a landfill.

For the purposes of this analysis, the construction debris estimate for the related projects was multiplied by five (to capture potential demolition debris). Because the exact construction schedules for each of the 188 related projects is unknown, it is not possible to determine how much of the estimated 344,013 tons of cumulative construction debris would be disposed of on a daily basis. Nonetheless, the overall quantity of debris generated during the construction lifetime of the related projects, combined with the construction debris from the Project, would constitute 3.5 percent of the remaining capacity of 9.7 million tons (6.5 million cubic yards) at Peck Road Gravel Pit, the inert waste landfill serving the County. Of the 3.5 percent, the Project would represent 0.04 percent. Adhering to AB 939, it is expected that approximately 50 percent of the cumulative construction waste would be recycled/reused. However, most related projects are private developments, and the recycling of private construction-related solid waste is not mandated by the City or County. Therefore, recycling of cumulative construction waste cannot be guaranteed, and it is assumed that all 344,013 tons of cumulative waste generated would be disposed of at Peck Road Gravel Pit or another regional landfill. Nonetheless, because the cumulative construction debris generated by the Project combined with the identified related projects would constitute a small percentage of remaining inert landfill capacity, cumulative impacts related to disposal of demolition and construction debris would be less than significant.

b) Operational Waste

As shown on Table IV.J-11, the estimated cumulative solid waste generation associated with the long-term operation of the related projects in the cities of Burbank and Los Angeles in conjunction with the Project is 161.94 tons of solid waste per day.

It is likely that some of these related projects include removal of existing uses (which could currently generate solid waste) in order to build the related projects. In some cases, the development of a related project could result in a net loss or no net increase in the current rate of solid waste generation. Also, similar to the Project, the operators of the related projects would be expected to participate in regional source reduction and recycling programs, which would reduce the amount of solid waste to be disposed of at the landfills described above. Additionally, as discussed previously, the City's current and future efforts to achieve a "zero waste" level (a 90 percent diversion rate) by the year 2025 are anticipated to substantially reduce the demand for landfill capacity.

Table IV.J-11
Estimated Cumulative Operational Solid Waste Generation

Related Projects (grouped by land use category)	Size	Daily Generation Rate (tons/day)	Total (tons/day)
City of Burbank			
Church	17,500 sf	0.0000035/sf[a]	0.06
Fast Food	8,325 sf	0.0000296/sf[b]	0.25
Industrial Park	87,089 sf	0.0000313/sf[a]	2.73
Medical Office	155,000 sf	0.0000296/sf[b]	4.59
Office	1,723,234 sf	0.000003/sf[a]	5.17
Residential[c]	645 du	0.002/du[a]	1.29
Restaurant	72,120 sf	0.0000296/sf[b]	2.13
Retail	4,100 sf	0.0000025/sf[a]	0.01
Shopping Center	50,000 sf	0.0000125/sf[b]	0.63
Theatre	6,000 sf[d]	0.0000156/sf[b]	0.09
		City of Burbank Related Projects Total	*16.94*
City of Los Angeles			
Bank	6,400 sf	0.000003/sf[a]	0.02
Car Dealership	196,031 sf	0.0000296/sf[d]	5.80
Child Care	8,080 sf[f]	0.0000035/sf[a]	0.03
Church	173,690 sf	0.0000035/sf[c]	0.61
Convenience Store	32,299 sf	0.0000296/sf[b]	0.96
Drinking Establishment	236,488 sf	0.0000296/sf[b]	7.00
Entertainment	109,000 sf	0.0000025/sf[a]	0.27
Fast Food	31,634 sf	0.0000296/sf[b]	0.94
Health Club	40,000 sf	0.0000156/sf[b]	0.62
Hotel	1,011 rms	0.001/rm[b]	1.01
Museum	103,725 sf	0.0000025/sf[a]	0.26
Office	700,596 sf	0.000003/sf[a]	2.10
Recreation Center/Lodge	32,073 sf	0.0000156/sf[b]	0.50
Residential[c]	19,824 du	0.002/du[a]	39.65

Table IV.J-11 (Continued)
Estimated Cumulative Operational Solid Waste Generation

Related Projects (grouped by land use category)	Size	Daily Generation Rate (tons/day)	Total (tons/day)
Restaurant	309,647 sf	0.0000296/sf[b]	9.17
Retail	1,725,246 sf	0.0000025/sf[a]	4.31
School – Elementary	259,550 sf[e]	0.0000035/sf[a]	0.91
School – Middle	108,700 sf[e]	0.0000035/sf[a]	0.38
School – High School	93,700 sf[e]	0.0000035/sf[a]	0.33
School – College	115,000 sf[e]	0.0000035/sf[a]	0.40
Shopping Center	2,496,342 sf	0.0000125/sf[b]	31.20
Studio	765,000 sf	0.0000313/sf[a]	23.94
Supermarket	45,000 sf	0.0000156/sf[b]	0.70
Theater	16,000 sf[d]	0.0000156/sf[b]	0.25
Warehouse	110,146 sf	0.0000025/sf[a]	0.28
		City of Los Angeles Related Projects Total	*131.64*
		City of Burbank Total	*16.94*
		Proposed Project Total	*13.36*
		CUMULATIVE TOTAL	**161.94**

[a] *City of Los Angeles Department of Public Works, Bureau of Sanitation, Solid Waste Generation, 1981.*
[b] *California Integrated Waste Management Board, Estimated Solid Waste Generation Rates, website: http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/Service.htm, October 2007.*
[c] *Because specific unit size was not available, all dwelling units are assumed to be two-bedroom multi-family dwellings.*
[d] *The square footage is an estimated based on the following assumption: one theatre seat = 20 sf.*
[e] *The square footage estimate is based on the following assumption: one student = 50 sf.*

Notes: *The land uses in this table are based on the related projects listed on Table IV.B-10. For the purposes of calculating cumulative solid waste generation, any project generally listed as "Mixed-Use" was assumed to be a retail land use in this table. Additionally, because solid waste generated by the related projects in Glendale would be accommodated by School Canyon Landfill in the City of Glendale, which would not serve the Project, these related projects are not included in the calculation of cumulative solid waste generation. Lastly, the size of some of the related projects land uses were not provided, and these unknown sizes were extrapolated based on traffic generation and known traffic generation rates for similar land uses.*

sf = square feet; du = dwelling unit; rms = rooms. Solid waste generation for parking lots and gas stations assumed to be minimal and not included in analysis.

Table Source: Christopher A. Joseph and Associates, July 2008.

Most related projects are private developments, and their respective municipalities do not currently mandate the recycling of private operational solid waste. Although the Project Applicant would be committed to implementation of effective recycling programs, which divert over half of waste generated on-site from reaching landfills as well as implementation of waste-reducing PDFs, recycling cannot be guaranteed for the related projects. As such, for the purposes of this analysis and to provide for a worst-case scenario it is assumed that all 161.94tons per day of operational waste associated with the related projects would be disposed of at regional landfills.

As stated previously, Puente Hills Landfill does not accept solid waste from the City of Los Angeles. However, the landfill does accept solid waste from the City of Burbank. Thus, the City of Burbank has four readily available landfill options: Burbank, Puente Hills, Chiquita Hills, and Sunshine Canyon.

Burbank Landfill Site No. 3 is located in and operated by the City of Burbank. The maximum permitted daily intake at the landfill is 240 tpd (refer to Table IV.J-12). As of May 2006, Burbank Landfill Site No. 3 accepted an average of 133 tpd. Thus, the landfill has a remaining daily capacity of 107 tpd. The total remaining capacity of the landfill is approximately 5.1 million tons.

Table IV.J-12
Remaining Daily Capacity Available for Cumulative Development

Jurisdiction	Available Landfills Remaining Permitted Daily Capacity (tpd)						Total Capacity (tpd)
	Burbank	Puente Hills[a]	Chiquita Hills[a]	Sunshine Canyon[b]	Antelope Valley[a]	Lancaster[a]	
City of Burbank	107	210	1,005	789	-		**2,111**
City of Los Angeles		-	1,005	-	3,814[c]	210	**5,029**

[a] *County of Los Angeles, Department of Public Works, Environmental Programs Division, Countywide Summary Plan and Countywide Siting Element (2005 Annual Report, Los Angeles County, May 2007. Includes both Antelope Valley Recycling and Disposal Facility and Lancaster Landfill & Recycling Facility.*

[b] *This landfill currently accepts solid waste from the City of Los Angeles. However, due to current/future diversion efforts, Sunshine Canyon might now be an option for the Project. Sunshine Canyon Landfill, About Sunshine Canyon Landfill, History, website: http://www.sunshinecanyonlandfill.com, accessed October 24, 2007.*

[c] As discussed previously, an EIR is currently being prepared to expand the capacity of this transfer station to 5,000 tpd. Anticipated operation date is sometime in 2010. The current remaining daily capacity is 214 tpd. Antelope Valley Recycling & Disposal Facility, personal communication with CAJA staff, January 18, 2008.

The Puente Hills Landfill located in an unincorporated area of Los Angeles County near the City of Santa Fe Springs, is operated by the County Sanitation Districts of Los Angeles County. The landfill is prohibited from accepting solid waste from any city having a population of more than 2,500,000 and from any county having a population of more than 2,000,000 (thus, the landfill does not accept solid waste from the City). In 2003, the Sanitation Districts submitted and the Integrated Waste Board approved a CUP for an expansion that would increase the life span of the landfill by 10 years (i.e., 2013) and would allow a maximum daily intake of 13,200 tons per day (72,000 tons per week). As of January of 2005, the Puente Hills Landfill accepted an average of 12,543 tons (22,806 cubic yards) per day. Therefore, the Puente Hills Landfill has a remaining daily capacity intake of 657 tons per day. The total remaining capacity of the landfill is approximately 32.3 million tons (58.8 million cubic yards).[134]

As shown on Table IV.J-12, the combined available daily capacity at the landfills that serve the City of Burbank is 2,111 tons per day. This capacity can accommodate the solid waste generated by the City of Burbank's related projects.

[134] *County of Los Angeles, Department of Public Works, Environmental Programs Division, Los Angeles County Integrated Waste Management Plan 2005 Annual Report on the Countywide Summary Plan and Countywide Siting Element, February 2006.*

For the City of Los Angeles, the primary and most readily available landfills are Chiquita Hills and Sunshine Canyon. Assuming that disposal at the Antelope Valley Recycling & Disposal Facility and Lancaster Landfill & Recycling Center is an option for City-generated solid waste, the total combined remaining daily capacity would be 5,029 TPD; without it the capacity would be 1,215 tpd, if Sunshine Canyon is available along with Chiquita Hills, and 1,005 tpd if only Chiquita Hills is available. Including solid waste generated by the Project, cumulative City-generated solid waste would be approximately 147 tons per day. Thus, with or without disposal at the Antelope Valley Recycling & Disposal Facility, the Lancaster Landfill & Recycling Center, and/or Sunshine Canyon, landfill capacity would be adequate to serve the cumulative development in the near and mid-term. Additionally, with the City's current diversion efforts in response to AB 939 and with the City's commitment to RENEW LA, the cumulative disposal needs included on Table IV.J-11 would be substantially reduced. However, all the landfills that would serve the Project and those related projects in the City (i.e., Chiquita Canyon Landfill, Sunshine Canyon Landfill, Antelope Valley Recycling & Disposal Facility, and Lancaster Landfill & Recycling Center) are anticipated to close by or before 2035. It is likely that other landfills, transfer stations, or other solid waste disposal facilities would be opened prior to such time. Nonetheless, since no such facilities are currently identified, this analysis conservatively concludes that cumulative solid waste impacts would be significant, and the Project's contribution to the cumulative impacts would be considerable.

5. MITIGATION MEASURES

Beyond compliance with the solid waste reduction measures that are part of the existing regulatory setting and implementation of the PDFs described above, no feasible mitigation measures are available to further reduce the significant Project-specific and cumulative solid waste impacts.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Compliance with the solid waste reduction measures that are part of the existing regulatory setting and implementation of the PDFs described above would reduce the Project's demand for landfill capacity. However, the reduction measures and PDFs would not reduce the significant Project-specific impact to less than significant and would not reduce the Project's contribution to the significant cumulative impact to less than considerable. No additional feasible mitigation measures are available, and Project-specific and cumulative impacts related to solid waste would be significant and unavoidable.

IV. ENVIRONMENTAL IMPACT ANALYSIS
J. UTILITIES
4. ELECTRICITY SUPPLY

Organization of the Subsection

1. INTRODUCTION

2. ENVIRONMENTAL SETTING

- **a) Regulatory Setting**
  - ***i) Title 24 of the California Code of Regulations***
  - ***ii) Western Electricity Coordinating Council (WECC) and the North American Electric Reliability Council (NERC)***
- **b) Existing Conditions**

3. ENVIRONMENTAL IMPACTS

- **a) Thresholds of Significance**
- **b) LEED Certification**
- **c) Project Design Features**
- **d) Project Impacts**

4. CUMULATIVE IMPACTS

5. MITIGATION MEASURES

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

1. INTRODUCTION

The information in this subsection is summarized from the following document, which can be found in Appendix IV.J-4:

- Metro Universal Project, Technical Report, Utilities, Electricity, prepared by ARC Engineering, June 2008.

2. ENVIRONMENTAL SETTING

a) Regulatory Setting

i) Title 24 of the California Code of Regulations

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR) (Title 24). The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings provided these standards meet or exceed those provided in Title 24 guidelines.

ii) Western Electricity Coordinating Council (WECC) and the North American Electric Reliability Council (NERC)

The WECC is a voluntary consortium of electrical power providers that is responsible for coordinating and promoting electricity reliability from Alberta and British Columbia in the north of its jurisdiction to northern Baja California in the south of its jurisdiction and the 14 western states in between.[135] Los Angeles Department of Water and Power (DWP) is a member of the WECC. WECC has implemented Standard BAL-STD-002-0 to require reliable operation of the interconnected power system while ensuring adequate generating capacity be available at all times to account for varying demands and avoid loss of firm load following transmission or generation contingencies. As a means of ensuring power system reliability, DWP maintains an extra reserve margin of power generation resources in the event of a power system disturbance. In order to determine how much extra generation reserves are needed, DWP adheres to the WECC Reliability Standard. Specifically, WECC Standard BAL-STD-002-0 requires its providers to:

- Supply requirements for load variations;
- Replace generating capacity and energy lost due to forced outages of generation or transmission equipment;
- Meet on-demand obligations; and
- Replace energy lost due to curtailment of interruptible imports.

[135] *Western Electricity Coordinating Council, About WECC, website: http://www.wecc.biz, accessed October 11, 2007.*

b) Existing Conditions

DWP provides electrical service within the City's jurisdictional boundaries, including the Project Site. DWP generates power from a variety of different sources that include hydroelectric, natural gas, and other fuels. In 2005, 38 percent of DWP's generation capacity was from coal-fueled units; 33 percent was from natural-gas-fueled units; 24 percent came from large hydroelectric sources; and 5 percent from renewable energy sources. The 5 percent renewable energy was generated from a mixture of DWP's hydro generation plants along the Los Angeles Water Aqueduct System, digester and landfill gas from sewage treatment plants and landfills that are converted into energy, and from purchases of other renewable resources. DWP supplies power to the Project Site through the Los Angeles transmission system, which similarly derives power from as many as 25 different electric generation plants located both within and outside southern California.

In the Project area, larger loads are supplied directly from DWP's 34.5-kilovolt (kV) circuits that originate from Toluca Receiving Station E (RS-E) located at 5740 Whitnall Highway. One RS-E 34.5-kV circuit to the Project area is routed through Arch Distributing Station 98 (DS-98) located at 4261 Arch Drive. Smaller individual loads in the Project area are usually supplied by DWP's 4.8-kV distribution system. Existing 4.8-kV circuits to this area originate from DS-98, DS-10 in Hollywood, or DS-115 located at Laurel Canyon Boulevard and Mulholland Drive. In the vicinity of the Project Site, DWP currently operates 34.5-kV and 4.8-kV underground circuits in Lankershim Boulevard, overhead 34.5-kV circuits along Cahuenga/Ventura Boulevard and overhead 4.8-kV lines along Bluffside Drive. Electrical service equipment at the Project Site includes on-site transformation substations, power poles, and associated overhead electrical distribution lines near Bluffside Drive.

3. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

The *Los Angeles CEQA Thresholds Guide* (page M.4-3) states that a determination of significance relative to energy consumption shall be made on a case-by-case basis, considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure, or capacity enhancing alterations to existing facilities;
- Whether and when the needed infrastructure was anticipated by adopted plans; and
- The degree to which the project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Based on all of these factors, the Project would have a significant impact if:

- The Project would result in an increase in demand for electricity that exceeds available supply or distribution infrastructure capabilities.
- The design of the Project fails to incorporate energy conservation measures under Title 24 of the California Code of Regulations.

b) LEED Certification

The Project Applicant is pursuing a Leadership in Energy and Environmental Design (LEED) certification for New Construction (NC). One of the categories of LEED NC is Energy and Atmosphere. In order to meet LEED requirements applicable to the use of electricity, the Project could employ renewable energy, on-site cogeneration system, thermal energy storage, high performance glazing, energy efficient equipments, and energy efficient appliances that would maximize building efficiency up to 31 percent greater than Title 24 requirements as of 2005. In addition, the Project could employ enhanced commissioning, and measure and verification processes to verify that the building's energy related systems are installed, calibrated, and performed, including providing ongoing accountability of building energy consumptions over time.

Cogeneration System. The Project could include a combined cycle cogeneration system to produce electrical power on-site and also produce thermal energy, which can be used to respond to the heating and cooling needs of the buildings on the Project Site. The cogeneration system would be powered by natural gas from the Southern California Gas (SCG) pipelines serving the Project Site. The on-site electrical power generation would be provided in parallel with the grid power provided by DWP, but the on-site power would reduce the total electrical peak demand of the Project on the DWP grid. It is envisioned that the cogeneration system would be designed to support both Phase 1 and Phase 2 of the Project, and would have an electrical capacity of 4.6 megawatts (MW) or less.

Photo-Voltaic Power Systems. The Project could include renewable solar energy produced by photovoltaic (PV) panels on the Project Site. The location of the PV panels could include a combination of horizontal surfaces (i.e., roofs, tops of parking structures) and vertical surfaces (i.e., integrated into the facades of the buildings). In the case of the horizontal applications, the PV panels would be shielded from view from surrounding areas on grade. The vertical PV panels would be incorporated into the curtain wall façade of the buildings, in a manner referred to as "building integrated PV" (BIPV). The power produced by the PV systems would be converted to AC power by electronic inverters and then connected to the electrical system of the building, which in turn is connected to the DWP grid.

Thermal Energy Storage (TES). TES systems shift cooling energy use during periods of low cooling demand (non-peak times) by chilling storage media such as ice, water, or a phase-change material for use later to meet air conditioning loads. The system consists of a storage medium in a tank, a packaged chiller or built-up refrigeration system, and interconnecting piping, pumps, and controls.

Green Power. The use of at least 35 percent of the Project's electricity from grid source, renewable energy technologies such as solar electric, wind, geothermal, biomass, and small or certified low-impact hydro facilities shall be considered in the Project design and operation. Green power is available for purchase from DWP.

c) Project Design Features

The Project shall design the building envelope, heating, ventilation, and air-conditioning (HVAC), lighting, other systems such as electric motor equipments, to maximize energy performance.

Additionally, as part of the Project and to reduce its overall demand for electricity, one (or both) of the following electrical systems could be employed to exceed the current Title 24 requirements:

- Cool roofs or high reflectance, high emittance roof surfaces in all low-slope applications;
- Basic building commissioning for electrical and mechanical equipment;
- High efficiency HVAC equipment and indoor and outdoor lighting;
- Energy Star appliances; and
- Other building envelope components such as glazing, insulation, and windows.

d) Project Impacts

Implementation of the Project would increase the demand for electricity at the Project Site. Table IV.J-13 includes an estimation of the Project's electricity demand. This estimation does not take into consideration the effectiveness of the Project's cogeneration and photo-voltaic power systems, which would result in a lower demand for electricity than is presented on Table IV.J-13. However, to provide for a conservative, worst-case scenario analysis, this reduction is not accounted for in the analysis. As shown on Table IV.J-13, the existing connected load to the Project Site exceeds the Project's estimated demand. Additionally, DWP has indicated that the Project's demand for electricity could be served via current supply capacities, and no improvements or additions to DWP's off-site distribution system would be needed.[136] As part of the Project, during the construction phase, all existing electrical service equipment would be relocated and reconfigured, including undergrounding existing power lines, as part of the overall site improvement plan. Also, each of the proposed buildings would have individual service from DWP, and additional electrical conduits, wiring, and associated infrastructure would be installed. Individual customer pad-mount transformers and outdoor customer stations would be provided. All of the proposed buildings would be subject to the State Energy Conservation Standards contained in Title 24 of the CCR. As such, the Project would not require new (off-site) energy supply facilities and distribution infrastructure, or capacity enhancing alterations to existing facilities and would incorporate energy conservation measures that go beyond City requirements. Therefore, Project impacts related to electricity supply and infrastructure would be less than significant.

Table IV.J-13
Estimated Electricity Demand of the Proposed Project

Project Use & Location		Proposed Building Area (sf)	Existing Connected Load[a] (KVA)	Anticipated Demand[b] (KVA)
Phase 1	Studio Building, Site A	315,000	10,300	6,180
	Office Tower, Site A	655,200	9,800	4,900
	Parking Garage, Site A	459,200	1,320	1,000
	Parking Garage, Site B	599,800	400	320
	Retail, Site B	25,000	625	430
Total Phase 1				*12,830*

[136] *DWP, Chuck Holloway, Manager of Environmental Assessment, correspondence, July 11, 2007.*

Phase 2, Option A	Office Tower, Site C	489,100	7,400	3,700
	Garage, Site C	606,000	1,065	850
Total Phase 2, Option A				*4,550*
Total Phases 1&2, Option A				**17,380**
Phase 2, Option B	Hotel, Site C	191,000	2,100	1,100
	Residential, Site C	400,000	4,400	2,400
	Garage, Site C	710,000	1,200	900
			Total Phase 2, Option B	***4,400***
			Total Phases 1&2, Option B	**17,230**

[a] *Connected load is the maximum possible amount of power that could be provided based on assigned values by national electrical code and other building loads.*

[b] *Demand Load is based on industry experience of similar building usages. Final demand factors would be determined by DWP based on historical data accumulated by DWP for the region's similar building usage.*

Source: ARC Engineering 2008.

4. CUMULATIVE IMPACTS

Development of the Project in combination with the some of the related projects and projected population growth in the greater Los Angeles area not captured within the related projects could create an increased demand for electricity supplied by DWP. All new development in California is required to be designed and constructed in conformance with State Building Energy Efficiency Standards outlined in Title 24 of the CCR. It is possible that implementation of the related projects (and other development in the greater Los Angeles area) could require the removal of older structures that were not designed and constructed to conform with the more recent and stringent energy efficiency standards. Thus, it is possible that with implementation of some of the related projects and other development, the resulting demand for electricity supply could be the same or less than the existing condition. Nonetheless, DWP undertakes expansion or modification of electrical service infrastructure and distribution systems to serve future growth in the City as required in the normal process of providing electrical service. Any potential cumulative impacts related to electric power service would be addressed through this process. Therefore, cumulative impacts related to electricity supply and infrastructure would be less than significant.

5. MITIGATION MEASURES

Because no significant impacts related to electricity supply were identified, no mitigation measures are required.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No mitigation measures are required, and impacts related to electricity supply would be less than significant.

IV. ENVIRONMENTAL IMPACT ANALYSIS
J. UTILITIES
5. NATURAL GAS SUPPLY

Organization of the Subsection

1. INTRODUCTION

2. ENVIRONMENTAL SETTING

- **a) Existing Conditions**

3. ENVIRONMENTAL IMPACTS

- **a) Thresholds of Significance**
- **b) LEED Certification**
- **c) Project Impacts**

4. CUMULATIVE IMPACTS

5. MITIGATION MEASURES

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

1. INTRODUCTION

The information in this subsection is summarized from the following document, which can be found in Appendix IV.J-5:

- Metro Universal Project, Technical Report, Utilities, Natural Gas, prepared by ARC Engineering, July 2008.

2. ENVIRONMENTAL SETTING

a) Existing Conditions

The Southern California Gas Company (SCG) provides natural gas service within the City's jurisdictional boundaries, including the Project Site. SCG receives its supplies from production fields in the southwestern United Sates, the Rocky Mountain area, and western Canada. Gas distribution in the Project area is provided via one 6-inch-diameter line that runs along Lankershim Boulevard and provides 35 psi)distribution pressure.

Currently, no gas service is provided to the Project Site. Numerous connections to the existing 6-inch-diameter gas line serve development along Lankershim Boulevard and to the north of the Project Site, including a 2-inch-diameter line that runs along Valleyheart Drive and ends in Riverton Avenue, a 1.25-inch-diameter line in Willowcrest Avenue, a 2-inch line in Cartwright Avenue, and a 2-inch-diameter line in Denny Avenue.

3. ENVIRONMENTAL IMPACTS

a) Thresholds of Significance

The *Los Angeles CEQA Thresholds Guide* (page M.4-3) states that a determination of significance relative to energy consumption shall be made on a case-by-case basis, considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure, or capacity enhancing alterations to existing facilities;
- Whether and when the needed infrastructure was anticipated by adopted plans; and
- The degree to which the project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Based on all of these factors, the Project would have a significant impact if:

- The Project would result in an increase in demand for natural gas that exceeds available supply or distribution infrastructure capabilities.
- The design of the Project fails to incorporate energy Title 24 conservation measures.

b) LEED Certification

The Project Applicant is pursuing a Leadership in Energy and Environmental Design (LEED) certification for New Construction (NC). One of the categories of LEED NC is Energy and Atmosphere. In order to meet LEED requirements applicable to the use of electricity, the Project could employ renewable energy, on-site cogeneration system, thermal energy storage, high performance glazing, energy efficient equipments, and energy efficient appliances which will maximize building efficiency up to 31 percent greater than Title 24 requirements as of 2005. In addition, the Project will consider enhanced commissioning, measure and verification processes to verify that the building's energy related systems are installed, calibrated, and performed including providing ongoing accountability of building energy consumptions over time.

Cogeneration System. The Project could include a combined cycle cogeneration system to produce electrical power on-site and also produce thermal energy, which can be used to respond to the heating and cooling needs of the buildings on the Site. The cogeneration system would be powered by natural gas from the SCG pipelines serving the Site. The on-site electrical power generation would be provided in parallel with the grid power provided by DWP, but the on-site power would reduce the total electrical peak demand of the Project on the DWP grid. It is envisioned that the cogeneration system would be designed to support both Phase 1 and Phase 2 of the Project, and would have an electrical capacity of 4.6 MW or less. The cogeneration system would be powered by natural gas, with an estimated demand of 42,000 cubic feet per hour (CFH).

c) Project Impacts

Implementation of the Project would create a demand for natural gas at the Project Site. Table IV.J-14 includes an estimation of the Project's demand for natural gas. Assuming buildout of the Phases 1 and 2, Option B (which would have the greater demand for natural gas), the estimated peak demand is approximately 74,453 CFH. SCG has indicated that the Project's demand for natural gas could be served via current supply capacities, and no improvements or additions to SCG's off-site distribution system would be needed.[137]

During the Project's construction phase, new lines connecting the main line in Lankershim Boulevard to each of the proposed structures requiring natural gas service would be provided. Separate gas meters would be provided for each building with provision for additional meters for retail tenants. As stated previously, all of the proposed buildings would be subject to the State Energy Conservation Standards contained in Title 24 of the CCR, which is a set of prescriptive standards establishing mandatory maximum energy consumption levels for buildings. As such, the Project would not require new (off-site) energy supply facilities and distribution infrastructure, or capacity enhancing alterations to existing facilities and would incorporate energy conservation measures that go beyond City requirements. Therefore, Project impacts related to natural gas supply and infrastructure would be less than significant.

[137] *Sempra Energy, Steven Luckie, various email and telephone communications, various dates.*

Table IV.J-14
Estimated Natural Gas Demand of the Proposed Project

Project Use & Location		Proposed Building Area (sf)	Anticipated Demand[a] (CFH)
Phase 1	Studio Building, Site A	315,000	4,060
	Office Tower, Site A	655,200	8,377
	Parking Garage, Site A	459,200	850[b]
	Parking Garage, Site B	599,800	850[b]
	Retail, Site B	25,000	3,366
		Total Phase 1	*17,503*
Phase 2, Option A	Office Tower, Site C	489,100	6,670
	Garage, Site C	606,000	850[b]
		Total Phase 2, Option A	*7,520*
		Total Phases 1&2, Option A	**25,023**
Phase 2, Option B	Hotel, Site C	191,000	6,100
	Residential, Site C	400,000	8,000
	Garage, Site C	710,000	850[b]
		Total Phase 2, Option B	***14,950***
		Total Phases 1&2, Option B	**32,453**
		Total Cogeneration	***42,000***
		Total Phases 1&2, Option B, w/Cogeneration	**74,453**

[a] *Anticipated gas demand is based on estimated mechanical heating load of 15 British thermal unit per hour (btu/h) per 1,000 square feet of building area, estimated domestic hot water generation, and gas burning kitchen appliances. Btu/h loads are converted to CFH. Final demand factors would be determined by SCG based on their method of calculating the demand for various types of buildings.*

[b] *Anticipated gas demand for parking garages is estimated based on industry experience with demand associated with similar building usages. Final demand factors would be determined by SCG based on their method of calculating the demand for various types of buildings.*

Source: ARC Engineering 2008.

4. CUMULATIVE IMPACTS

Development of the Project in combination with the some of the related projects and projected population growth in the greater Los Angeles area not captured within the related projects list could create an increased demand for natural gas supplied by SCG. All new development in California is required to be designed and constructed in conformance with State Building Energy Efficiency Standards outlined in Title 24 of the CCR. It is possible that implementation of the related projects (and other development in the greater Los Angeles area) could require the removal of older structures that were not designed and constructed to conform with the more recent and stringent energy efficiency standards. Thus, it is possible that with implementation of some of the related projects and other development, the resulting demand for natural gas supply could be the same or less than the existing condition. Nonetheless, SCG undertakes expansion or modification of natural gas service infrastructure and distribution systems to serve future growth in the City as required in the normal process of providing natural gas service. Any potential cumulative impacts related to natural gas service would be addressed through this process. Therefore, cumulative impacts related to natural gas supply would be less than significant.

5. MITIGATION MEASURES

Because no significant impacts related to natural gas supply and infrastructure have been identified, no mitigation measures are required.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No mitigation measures are required, and impacts related to natural gas supply and infrastructure would be less than significant.