4.16 UTILITIES AND SERVICE SYSTEMS

4.16.1 METHODOLOGY

This section addresses existing utilities and service systems for the proposed 2010 General Plan Update and analyzes potential impacts on the availability and capacity of the local providers for the following wet and dry utilities (the service provider is noted parenthetically) with implementation of the proposed project:

- Water services (City of Arcadia);
- Wastewater facilities (City of Arcadia [sewage conveyance] and County Sanitation Districts of Los Angeles County [sewage treatment and disposal]);
- Electricity (Southern California Edison);
- Natural Gas (Sempra Utilities/Southern California Gas Company);
- Communication systems (AT&T [telephone], and Time Warner and Champion Broadband [cable]); and
- Solid Waste Disposal (Waste Management [waste collection] and County Sanitation Districts of Los Angeles County [landfill disposal]).

Information in this section is derived from the City of Arcadia's *2005 Urban Water Management Plan*, *Water Master Plan 2008 Update*, *Sewer Master Plan and Hydraulic Modeling 2005*, the City's existing General Plan, the proposed 2010 General Plan Update, communication with the affected utilities, and the utilities' websites. Storm drain facilities are addressed in Section 4.8, Hydrology and Water Quality. A Water Supply Assessment (WSA) has also been prepared to address water demand and supply at buildout of the City. The findings of the WSA are summarized below and the WSA is provided in Appendix K of this EIR.

4.16.2 RELEVANT PROGRAMS AND REGULATIONS

Federal

Clean Water Act

The Clean Water Act is discussed in Section 4.8, Hydrology and Water Quality, of this EIR.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA, *Health and Safety Code,* Sections 116350–116405) was passed in 1974 and is intended to protect public health by regulating the nation's public drinking water supply. The Federal SDWA authorizes the U.S. Environmental Protection Agency (USEPA) to set national standards for drinking water to protect against contaminants. Amendments in 1996 expanded the focus of the SDWA from primarily water treatment to enhanced source water protection, operator training, funding for water system improvements, and public information as important components of protecting drinking water supplies. The SWDA applies to every public water system in the United States and sets the enforceable maximum contaminant levels (MCLs) for drinking water supplies.

State

Safe Drinking Water Act

California enacted its own Safe Drinking Water Act, with the California Department of Health Services (DHS) granted primary enforcement responsibility. Title 22 of the *California Code of Regulations* (CCR) (Division 4, Chapter 15, "Domestic Water Quality and Monitoring Regulations") established DHS authority and provides drinking water quality and monitoring requirements, which are equal to or more stringent than federal standards.

Senate Bill 610 and Senate Bill 221

Senate Bill (SB) 610 amended State law[1] to improve the link between information on water supply availability and certain land use decisions made by cities and counties. Specifically, it requires land use planning entities (in this case, the City of Arcadia), when evaluating certain large development projects, to request a water supply availability assessment from the water supply entity that would provide water to the project. A water supply assessment (WSA) must be prepared in conjunction with the land use approval process associated with a project, and it must include an evaluation of the sufficiency of the water supplies available to the water supplier to meet existing and anticipated future demands (including the demand associated with the project in question) over a 20-year horizon that includes normal, single-dry, and multiple dry-years. An SB 610 WSA is required for any "project" that is subject to CEQA and that proposes, among other things, residential development of more than 500 dwelling units.

In addition, SB 221 requires land use planning agencies, such as the City, to include (as a condition in any tentative map that includes a subdivision involving more than 500 dwelling units) a requirement to obtain written verification that sufficient water supplies are available for the subdivision from the applicable public water system, or, where there is no existing water supplier, from a consultant directed by the City. SB 221 also addresses the issue of land use and water supply, but at a different point in the planning process than does SB 610. SB 221 requires a city or county to deny approval of a tentative or parcel map if the city or county finds that the project does not have a sufficient, reliable water supply as defined in the bill.

A General Plan Update is not subject to either SB 610 or SB 221 because a General Plan, in itself, does not grant entitlements. However, as described above, a WSA has been prepared for the proposed Arcadia General Plan Update.

Urban Water Management Planning Act

The Urban Water Management Planning Act (UWMP Act) (*California Water Code*, Division 6, Part 2.6, Section 10610 et seq.) was enacted in 1983. The UWMP Act applies to municipal water suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet per year (afy) of water. The UWMP Act requires these suppliers to update their Urban Water Management Plan (UWMP) every five years to demonstrate an appropriate level of reliability in supplying anticipated short-term and long-term water demands during normal, dry, and multiple dry years.

[1] SB 610 amended section 21151.9 of the *California Public Resources Code*, and amended sections 10631, 10656, 10910, 10911, 10912, and 10915 of, repealed section 10913 of, and added and amended section 10657 of, the *California Water Code*.

Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881) requires cities and counties, including charter cities and charter counties, to adopt landscape water conservation ordinances by January 1, 2010. The Department of Water Resources (DWR) prepared an updated Model Water Efficient Landscape Ordinance, as contained in *California Code of Regulations* Title 23, Division 2, Chapter 2.7. Cities and counties have the option to adopt DWR's ordinance or to develop their own. If a local agency has not adopted its own ordinance on or before January 1, 2010, the DWR ordinance shall be applicable to the jurisdiction of the local agency.

DWR's ordinance identifies the landscape documentation that needs to be submitted to the local agency, including a completed Water Efficient Landscape Worksheet that estimates total water use and compares it to the Maximum Applied Water Allowance (MAWA) based on the annual reference evapotranspiration value for the project area. The MAWA is considered the water budget and should not be exceeded by the estimated water use. Standards for soil management, landscape design, irrigation design and efficiency, grading design, irrigation scheduling, maintenance, audit and survey of water use, recycled water, storm water management, public education, and wastewater prevention are provided to reduce irrigation water demand.

Senate Bill 7

Senate Bill 7 (SBX7_7) was approved in November 2009 and requires urban water retail suppliers in California to reduce per capita water use by at least 10 percent on or before December 31, 2015, and achieve a 20 percent reduction by December 31, 2020. SBX7_7 requires each urban retail water supplier, including the City of Arcadia, to adopt 1 of 4 methods to satisfy the 20 percent by 2020 requirements. Three of the four methods are listed below:

1. The water demand for the 20 percent reduction by 2020 requirement will be determined by calculating 80 percent of the urban retail water supplier's baseline per capita daily water use.
2. The water demand for the 20 percent reduction by 2020 requirement will be determined through certain performance standards for indoor residential water; landscaping; and commercial, industrial, and institutional uses.
3. The water demand for the 20 percent reduction by 2020 requirement will be determined by calculating 95 percent of the applicable hydrologic region target.

The fourth method is currently not available but will be defined by the DWR by the end of 2010.

An urban retail water supplier must include in its urban water management plan for the 2010 update, the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data. Urban wholesale water suppliers shall include an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this bill. However, it should not require existing customers as of the effective date of this section, to undertake changes in product formulation, operations, or equipment that would reduce process water use, but may provide technical assistance and financial incentives to those customers to implement efficiency measures for process water.

The bill also requires agricultural water suppliers to implement efficient water management practices. Urban retail water suppliers and agricultural water suppliers would not be eligible for State water grants or loans for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation unless they comply with the water conservation requirements established by this bill.

Title 24 Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Non-residential Buildings was established in 1978 in response to a mandate to reduce the State's energy consumption. These standards are promulgated under *California Code of Regulations* Title 24, Part 6 and are commonly referred to as "Title 24". The Title 24 standards are periodically updated to reflect new or improved energy efficiency technologies and methods. The 2008 Standards went into effect on January 1, 2010, and supersede the 2005 Standards. The 2008 standards are responsive to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates reductions in greenhouse gas emissions, as well as other State mandates. A new development project is required to incorporate the most recent Title 24 standards in effect at the time the building permit application is submitted.

Title 24 Green Building Standards

The California Green Building Standards Code (24 *California Code of Regulations*, Part 11) was adopted in June 2008. The purpose of the Green Building Standards is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts that have a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality (California Building Standards Commission [CBSC] 2008a). Although the Green Building Standards became effective August 1, 2009, according to the cover date, effective dates for various elements are specified within the publication. Accordingly, the California Building Standards Commission (CBSC) advises that this version of the standards is primarily a voluntary one. There are mandatory provisions within the Code, but these items are currently either required by State law or required by existing regulations. Most of the mandatory provisions adopted by the Department of Housing and Community Development (HCD) have a delayed effective date until the 2010 State building codes are in effect (CBSC 2008b).[2] The CBSC states that the California Green Building Standards would become mandatory starting in January 1, 2011.

California Integrated Waste Management Act (AB 939)

The California Integrated Waste Management Act of 1989 (AB 939) (1) established CalRecycle (formerly known as the California Integrated Waste Management Board) and its review, approval, permitting, and enforcement authority related to AB 939 requirements; (2) required all counties to prepare an Integrated Waste Management Plan; and (3) required all cities and counties to divert 50 percent of all solid waste from landfills or transformation facilities by January 1, 2000, through source reduction, recycling and compost activities.

[2] The indoor water use measures are required as of July 1, 2011.

California Solid Waste Reuse and Recycling Access Act of 1991

Subsequent to enactment of the California Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Reuse and Recycling Access Act of 1991 (*Public Resources Code* Section 42900–42911) directs the CIWMB to draft a "model ordinance" governing adequate areas for collection and loading of recyclable materials in development projects. If by September 1, 1994, a local agency did not adopt its own ordinance based on the CIWMB model, the CIWMB model took effect for that local agency. The City's zoning code incorporates requirements for the provision of areas for the collection and loading of recyclables in compliance with the California Solid Waste Reuse and Recycling Access Act of 1991.

California Plumbing Code

Part 5 of the California Building Code (Title 24 of the Code of Regulations) is the California Plumbing Code, which provides standards for the design and construction of water and sewer systems, storm drains, and recycled water systems in buildings. It prohibits connection to a septic tank in areas served by a public sewer system and requires the proper abandonment of septic tanks, cesspools, and seepage pits.

Regional

Sanitation Districts of Los Angeles County Wastewater Ordinance

In 1972, the Sanitation Districts of Los Angeles County (LACSD) adopted a Wastewater Ordinance, which was most recently amended in 1998, for the operation and financing of the LACSD's wastewater conveyance, treatment, and disposal facilities. The Wastewater Ordinance applies to all direct and indirect discharges of wastewater to any part of the sewerage system and regulates industrial wastewater discharges to protect the public sewerage system. The LACSD also charges Connection Fees and Surcharges. The Surcharge program requires all industrial companies discharging to the LACSD's sewerage system to pay their fair share of the wastewater treatment and disposal costs. The Connection Fee program requires all new users of the LACSD's sewerage system, as well as existing users that significantly increase the quantity or strength of their wastewater discharge, to pay their fair share of the costs for providing additional conveyance, treatment, and disposal facilities. The LACSD uses the fees for the expansion and improvement of their facilities, as needed, to serve existing and anticipated developments (LACSD 1998).

Municipal Separate Storm Sewer System (MS4) Permit

In 2001, the Los Angeles RWQCB (LARWQCB) issued an NPDES Permit and Waste Discharge Requirements (Order No. 01-182; NPDES No. CAS0041) (Los Angeles County MS4 Permit) under the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act for discharges of urban runoff in public storm drains in Los Angeles County. The Los Angeles County MS4 Permit has been amended several times, most recently December 10, 2010, by Order No. R4-2009-0130. The City of Arcadia is within the jurisdiction of the LARWQCB and is subject to the waste discharge requirements of the Los Angeles County MS4 Permit. The County of Los Angeles and cities within the County are Co-permittees under the MS4 permit, and have legal authority to enforce the terms of the permit in their jurisdictions.

Local

Arcadia Water Master Plan

Maintenance and improvements to the City's water system are coordinated through the Water Master Plan. Updated every five years, and most recently in 2008, the Water Master Plan looks at the existing water system, historic water production, and projected future demand. The Water Master Plan helps the Public Works Services Department and the City Council evaluate and assess operational and planning issues associated with the water system, including water system reliability, infrastructure rehabilitation needs, and restoration considerations of various water facilities.

Urban Water Management Plan

The 2005 UWMP for the City of Arcadia was prepared to meet the mandates of the California Urban Water Management Planning Act. The UWMP identifies historic and projected water supplies available to the City of Arcadia; existing and projected water demand; available water rights; and programs to meet demand during an average year, single-dry year, and multiple-dry years. The UWMP is the foundational document for compliance with both *California Water Code* Sections from SB 610 and SB 221 for projects in the City. The City of Arcadia water system's water supply sources include groundwater rights in both the Main Basin and Raymond Basin and direct delivery of treated imported water from the Metropolitan Water District of Southern California (MWD) through Upper San Gabriel Valley Municipal Water District (Upper District). As an MWD member agency, Upper District receives water from MWD. As an Upper District member agency, the Arcadia water system receives water from MWD through Upper District.

Water Shortage Contingency Plan

In 1991, in accordance with the requirements of Assembly Bill 11X, the City of Arcadia developed a comprehensive Water Shortage Contingency Plan. In addition, the City Council would adopt a resolution to declare a water shortage emergency, if necessary. The City has developed an eight-stage rationing plan to invoke during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage. Table 4.16-1 summarizes the water rationing stages and reduction goals.

TABLE 4.16-1
WATER RATIONING STAGES AND REDUCTION GOALS

Shortage Condition	Phase	Customer Reduction Goal	Type of Rationing Program
Imminent Drought	I	10%	Mandatory
Up to 10%	II	10%	Mandatory
11–15%	III	15%	Mandatory
16–20%	IV	20%	Mandatory
21–25%	V	25%	Mandatory
26–30%	VI	30%	Mandatory
31–40%	VII	40%	Mandatory
41–50%	VIII	50%	Mandatory
Source: City of Arcadia 2005			

Water allocations would be made according to the following ranking system:

1. Average of past usage for a "base" period.
2. Health and safety allocations (includes hospitals, convalescent facilities, fire fighting and public safety).
3. Health and safety allocations (includes single-family, multi-family, and retirement communities).
4. Commercial, industrial, institutional/governmental operations (where water is used for manufacturing) and to maintain jobs and economic base of the community (not for landscape uses).

The City of Arcadia's Mandatory Water Conservation Ordinance calls for mandatory water conservation according to phase, as called out in the Water Shortage Contingency Plan. Any customer failing to comply with the regulations and restrictions on water use set forth in the Mandatory Water Conservation Plan Ordinance are subject to surcharge penalties or misdemeanor proceedings, as referred to the City Attorney.

Arcadia Municipal Code

Article VII, Chapter 4 of the *Arcadia Municipal Code* regulates sewer line design, connection to the City's sewer system, fees, and permits. Article VII, Chapter 5 of the *Arcadia Municipal Code* regulates water system connection and fees, with Part 5 addressing water use and the City's Water Conservation Ordinance and Water Efficient Landscaping Ordinance. Industrial waste control regulations in Article VII, Chapter 10 of the Municipal Code prevent the introduction of pollutants into the public sewer system, including the need for industrial waste discharge permits from individual dischargers.

The City's Zoning Regulations (Article IX, Chapter 2 of the *Arcadia Municipal Code*) contains standards for the provision of recyclables collection and loading areas, which require lots developed with more than one dwelling unit and non-residential developments to provide an area for the collection and loading of recyclables.

Building regulations in Arcadia are specified in Article VIII, Sections 8010–8927 of the *Arcadia Municipal Code*, which includes adoption of the 2007 California Building Code, California Plumbing Code, California Electrical Code, and California Mechanical Code. Standard residential, commercial, and light industrial construction is governed by the CBC, which the City has amended and to which the City has provided additions that make the building regulations more stringent to specifically address geologic and wildfire considerations in the City.

Water Efficient Landscaping Ordinance

In accordance with the Water Conservation in Landscaping Act of 2006, the City of Arcadia adopted a Water Efficient Landscaping Ordinance in December 2009, which was added into the City's Municipal Code as Article VII, Chapter 5, Division 4. The ordinance regulates new construction and rehabilitated landscapes for public agency projects and private non-residential development projects with landscaped areas of 2,500 square feet or more; developer-installed residential landscape areas of 2,500 square feet or more; homeowner-installed residential landscape areas of 5,000 square feet or more; existing landscape areas of 1 acre or more; and special landscaped areas (such as areas dedicated to edible plants, areas irrigated with recycled water, or areas dedicated to active play). The regulations include standards for plant

selection and grouping, water features, irrigation requirements, and soil and grading requirements.

Sewer Master Plan and Hydraulic Modeling

The City's Sewer Master Plan that was completed in February 2006 provides a hydraulic analysis of the City's sewer system; identifies the necessary system improvements; evaluates operation and maintenance needs; and develops a sewer rate structure to pay for services and system improvements.

The hydraulic analysis of the City's sewer system identified a number of pipe segments that had capacity limitations during dry weather conditions and that needed increases in pipe diameter to eliminate these limitations. Sewer pipes are proposed for replacement with larger pipes at various locations throughout the City. Surcharging in the trunk lines of the LACSD was also identified due to restrictions in the County's sewer trunk capacities, which require upgrades to the LACSD trunk lines. Re-lining or replacement of the City's sewer pipes is needed where root intrusions and structural damage were identified by closed-circuit television (CCTV) inspection of the system. Relief of bends where backups occur, gates and paths for easier easement access, new equipment, and temporary staffing are also recommended to resolve known problem areas.

The Master Plan projects a 0.5 percent growth in new connections due to the development of vacant lots and the redevelopment and intensification of currently developed lots over the next 20 years. This projection was used to develop the sewer rate structure that would allow for the capture of costs for system maintenance and improvement. Considering the estimated costs to implement the recommended system improvements, the Master Plan recommends a one-time increase in sewer rates followed by annual rate increases or a delayed implementation schedule for the improvements with a more frequent maintenance schedule. The City adopted new sewer rates in June 2006, as recommended by the Sewer Master Plan.

Sewer System Management Plan

Order No. 2006-0003, Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems, requires public agencies that own or operate a sanitary sewer system with more than one mile of pipelines used to convey treated or partially treated wastewater to a Publicly Owned Treatment Works (POTW) to reduce the number of Sanitary Sewer Overflows (SSOs). The public agencies must electronically report SSOs to the SWRCB and develop a Sewer System Management Plan (SSMP) describing how the agency operates, maintains, and evaluates its sewage collection system. The City of Arcadia's Sewer Master Plan has been developed, as the required SSMP, and discusses the City's sewer system condition and structural deficiencies, operation and maintenance program, response plan for overflow emergencies, rehabilitation and replacement actions, and implementation schedule.

Source Reduction and Recycling Element

The City of Arcadia has adopted a Source Reduction and Recycling Element (SRRE), which identifies the programs that it is implementing to achieve the waste reduction, recycling, and diversion goals of the California Integrated Waste Management Act (i.e., 25 percent by January 1, 1995, and 50 percent by January 1, 2000 and after). The SRRE identifies the amount and type of solid wastes generated in the City and the City's diversion rate, based on various recycling, composting, and waste reduction programs that are in place, and new or

expanded programs. The City of Arcadia has consistently met the 50 percent waste diversion, with a high of 74 percent in 2003 (CalRecycle 2010b).

4.16.3 EXISTING CONDITIONS

Water Supply and Infrastructure

The City of Arcadia supplies water to the majority of development within its corporate boundaries, with approximately 13,400 service connections. Approximately 96 percent of the City is served by the Arcadia water system. Other water suppliers in the City include the Sunny Slope Water Company, East Pasadena Water Company, San Gabriel Valley Water Company (SGVWC), California-American Water Company (CAWC), and the Golden State Water Company (GSWC, formerly Southern California Water Company), which serve small areas along the western and southern boundaries of the City and its Sphere of Influence (SOI) (Stetson 2010). Exhibit 4.16-1 shows the service area of the various water companies serving the City.

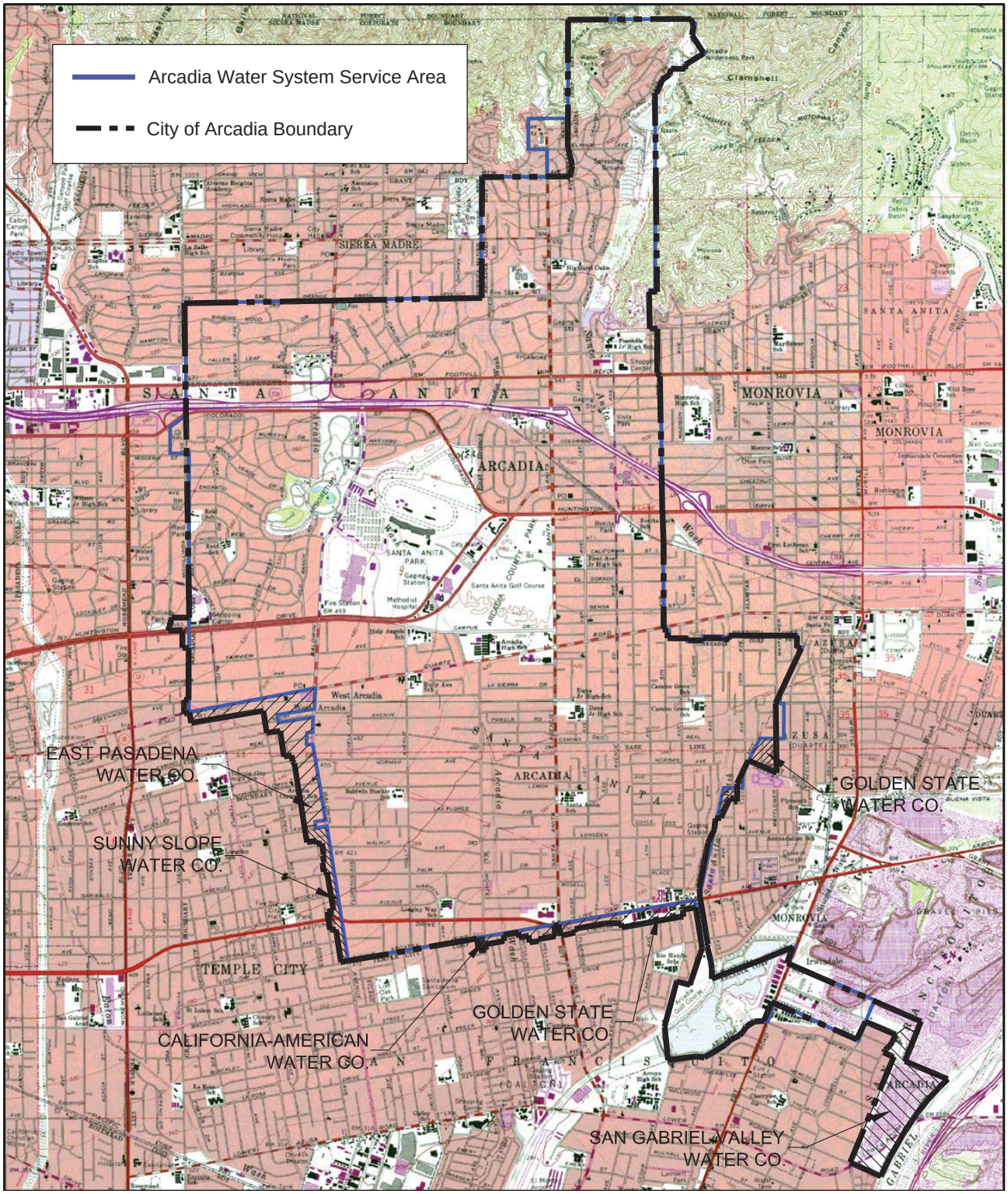
Water Sources

The City's three main sources of water include groundwater from wells in the Main San Gabriel Basin and the Raymond Basins, and direct delivery of treated imported water from Upper District (wholesaler of imported water). These water supply sources are discussed below.

Groundwater

The Main Basin (adjudicated by the Main Basin Watermaster) is a large groundwater basin replenished by stream runoff from the adjacent mountains and hills, by rainfall directly on the surface of the valley floor, by subsurface inflow from Raymond Basin and Puente Basin, and by return flow from water applied for overlying uses. Additionally, the Main Basin is replenished with imported water. The Main Basin serves as a natural storage reservoir, transmission system, and filtering medium for wells. There are three municipal water districts overlying and/or partially overlying the Main Basin: the Upper District, the San Gabriel Valley Municipal Water District (SGVMWD), and the Three Valleys Municipal Water District (TVMWD). The City of Arcadia is not restricted in the quantity of water that can be extracted from the Main Basin; however, annual extractions in excess of the City's annual allocation are subject to an assessment fee for replacement water (Stetson 2010).

The Raymond Basin is recharged by the Arroyo Seco, a tributary to the Los Angeles River, and by Eaton Wash, Santa Anita Wash, and other streams in the San Gabriel River watershed. Pumping rights to the Raymond Basin are adjudicated and are managed by the Raymond Basin Management Board. Sixteen parties have rights to pump from the Raymond Basin, which is separated into three major subareas: Monk Hill, Pasadena, and Santa Anita. The City of Arcadia has a decreed right to a certain amount of adjudicated groundwater from the Pasadena and Santa Anita subareas. Due to recent multiple dry year conditions, the Raymond Basin Management Board has phased in a 30 percent reduction requirement over 5 years for all Decreed Rights to the Pasadena Subarea, beginning fiscal year 2009/2010. As a result, Arcadia's total water right in the Raymond Basin will be 5,008.6 acre-feet per year by fiscal year 2013/2014 (Stetson 2010).



Source: Stetson Engineers Inc. 2010

Water Service Providers

Exhibit 4.16-1

Arcadia General Plan Update

BonTerra CONSULTING

(Rev 05/27/10 JFG) Projects\Hogle\J010\Graphics\Ex4.16-1_waterService.pdf

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The City obtains its groundwater supply through 14 active wells, with 8 wells within the Raymond Basin and 6 wells within the Main San Gabriel Basin (Main Basin). Assuming a well operating factor of 75 percent (groundwater wells are operated 75 percent of the time), the Arcadia water system's total current groundwater pumping capacity is approximately 17,300 afy from wells in the Main Basin and is approximately 5,760 afy from wells in the Raymond Basin (Stetson 2010).

Imported Water

The Upper San Gabriel Valley Municipal Water District (USGVMWD), the retail supplier of treated imported water to the City of Arcadia, obtains its supply from the MWD connection (USG-6) at the northern end of the City. MWD obtains water from the State Water Project (SWP), which is the delivery system for water from Northern California through the California Aqueduct.

According to DWR's *The State Water Project Delivery Reliability Report 2007* (August 2008), the delivery reliability of SWP water is approximately 63 percent, on average, over the next 20 years. The DWR report incorporated future impacts on water deliveries as a result of global warming and potential limited pumping of the SWP to protect salmon, smelt, and other species in the Sacramento-San Joaquin Delta and Central Valley areas. Legal decisions regarding Delta smelt and other sensitive aquatic species have reduced the estimated median annual average supply on the SWP from about 3,170,000 acre-feet (af) in 2005 to about 2,680,000 af in 2009. The long term impact of these restrictions is not known in detail at this time. Studies are underway by the U.S. Bureau of Reclamation that may provide data that could result in greater flexibility in the delivery of SWP water (Stetson 2010).

The City of Arcadia relies largely on groundwater rather than imported water due to the differing quality treatments needed between groundwater and imported water, as well as the higher cost of imported water. Groundwater management, well maintenance, and capital improvement programs by the City have minimized the use of imported water (Arcadia 2005).

Recycled Water

The City of Arcadia currently does not have a recycled water system due to the lack of recycled water mains from downstream wastewater treatment plants to the City. However, the Upper SGVMWD has initial plans, set forth in the San Gabriel Valley Water Recycling Project, to extend recycled water lines from the Whittier Narrows Water Reclamation Plant to the Cities of El Monte, South El Monte, and Irwindale, and which may include the City of Arcadia (Arcadia 2005).

Historic and Planned Water Supplies

Over the past 20 years, the Arcadia water system has supplied approximately 13,740 afy to approximately 18,670 afy to meet demand, with an average of approximately 16,500 afy. Groundwater from the Main Basin supplied approximately 7,320 to 12,690 afy, or an average of approximately 10,320 afy. Groundwater from the Raymond Basin supplied approximately 4,550 to 7,710 afy, or an average of approximately 6,040 afy. Use of treated imported water has ranged from 0 to 1,400 afy (Stetson 2010). Table 4.16-2 summarizes the City's historic water production.

TABLE 4.16-2
ARCADIA WATER SYSTEM HISTORICAL WATER DEMANDS
(IN ACRE-FEET)

Fiscal Year	Main San Gabriel Basin Production	Raymond Basin Production	Imported Water Deliveries[1]	Total Water Demand
1989–90	11,184.22	6,005.45	0.00	17,189.67
1990–91	9,801.69	5,411.91	631.70	15,845.30
1991–92	7,323.35	6,414.71	0.00	13,738.06
1992–93	9,493.29	5,200.48	0.00	14,693.77
1993–94	7,486.55	7,707.16	0.00	15,193.71
1994–95	7,863.02	7,436.50	0.00	15,299.52
1995–96	11,214.80	5,512.10	0.00	16,726.90
1996–97	10,175.83	7,103.10	0.00	17,278.93
1997–98	9,328.21	5,750.90	0.00	15,079.11
1998–99	8,737.43	7,315.40	0.00	16,052.83
1999–00	11,696.19	6,182.60	0.00	17,878.79
2000–01	11,161.46	6,021.60	0.00	17,183.06
2001–02	11,417.87	5,595.90	0.00	17,013.77
2002–03	12,153.32	4,547.50	0.00	16,700.82
2003–04	12,438.79	5,077.60	540.50	18,056.89
2004–05	10,001.60	6,175.60	0.00	16,177.20
2005–06	9,230.22	7,608.50	0.00	16,838.72
2006–07	12,286.00	6,381.50	0.00	18,667.50
2007–08	12,685.87	4,810.70	95.30	17,591.87
2008–09	10,780.06	4,584.30	1,398.90	16,763.26
Average				***16,498.48***

Notes:
[1] Direct delivery of treated imported water from Arcadia's USG-6 connection.

Sources:
Main San Gabriel Basin Watermaster Annual Reports, 1989–2009
Raymond Basin Management Board Reports, 1989–2009

The City's UWMP states that approximately 76 percent of the water supply in 2005 was provided to single-family residential uses, with 9 percent to multi-family residential uses, 8 percent to commercial land uses, and 7 percent to institutional and government uses (Arcadia 2005).

Because the City is largely built out, the number of new water service connections has increased by only about two percent since 2000, and the total water use from 2000 to 2005 increased by about one percent. With implementation of the City's conservation measures, new plumbing efficiency standards, landscape guidelines, and other conservation programs, this trend is expected to continue.

Water Distribution Infrastructure

In addition to the City's 14 groundwater wells, the City's water system includes 9 booster pump stations with 34 boosters, 15 reservoirs with 44.8 million gallons (MG) of capacity, 3 forebay reservoirs with 1.55 MG of total capacity; and, 164.6 miles of water lines. In order to provide proper service at varying elevations, the water system is divided into seven pressure zones,

which float to open reservoirs, and two sub-zones served through pressure regulators (AKM 2008). Exhibit 4.16-2 shows the existing water system of the City.

The City also has intertie connections with adjacent water agencies for emergency use exchange opportunities. These include an 8-inch, 1-way connection with the East Pasadena Water Company; an 8-inch, 2-way connection and a 4-inch, 1-way connection with the Golden State Water Company; a 6-inch, 2-way connection with the Sunny Slope Water Company; a 4-inch, 2-way connection with the San Gabriel Valley Water Company; and a 12-inch, 2-way connection with the City of Sierra Madre (AKM 2008).

Wastewater Infrastructure and Treatment

Wastewater conveyance is handled by the City and the LACSD, and wastewater is processed (treated) by the LACSD. Wastewater infrastructure and treatment is discussed below.

City Wastewater Facilities

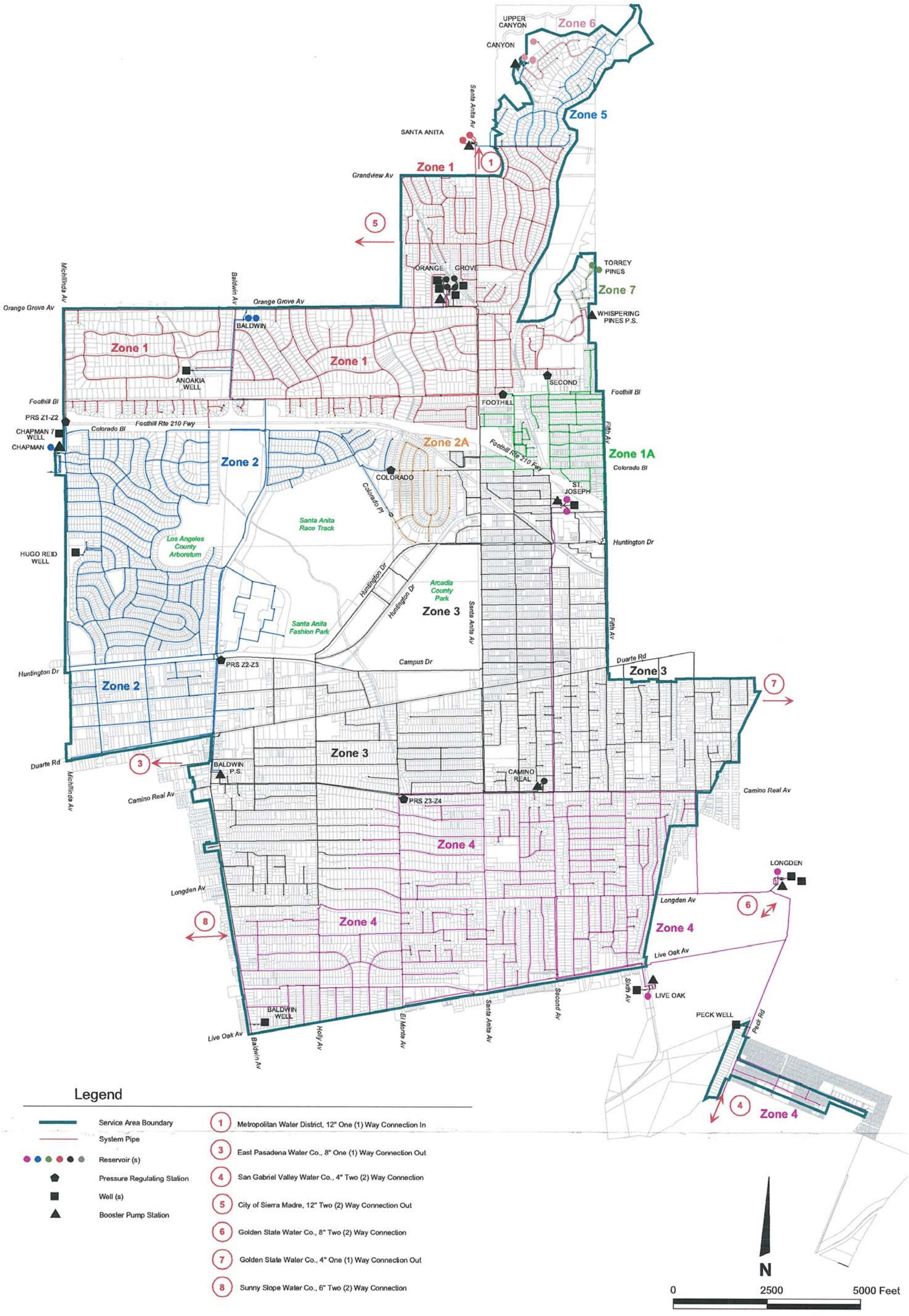
Local sewer lines are maintained by the City and convey wastewater into trunk lines that are maintained by the LACSD. The City's sewer system has approximately 138 miles of sewer pipes, plus 15 miles of County-owned pipelines, 6 siphons, and 1 pump station. Exhibit 4.16-3 shows the existing sewer lines in the City. The City of Arcadia's sewer system serves existing developments in the City, with connections to the sewer systems of the Cities of Sierra Madre, Temple City, and Monrovia and unincorporated County areas that allow for sewage conveyance through the Arcadia system to the LACSD sewer trunk lines (discussed below) (CH2MHILL 2006).

The Sewer Master Plan identifies deficiencies in the City's sewer system at the following locations:

- Huntington Drive, near Campus Drive;
- Colorado Place and Huntington Drive;
- Sixth Avenue;
- Old Ranch Drive, south of the Arboretum; and
- Baldwin Avenue, north of Duarte Road.

Approximately 8,159 feet of sewer lines (or 1 percent of the total length in the City system) need to be upgraded at these locations to serve development by 2026. In addition, surcharging in the sewer trunk lines of the LACSD leads to backups in the City system (CH2MHILL 2006).

The City provides regular maintenance and inspection of the sewer system through ongoing efforts to identify, repair, and prevent sewer system damage through regular line and siphon cleaning, hydro-flushing or vacuuming, pipe cleaning, inspection of industrial discharge permittees for grease prevention compliance, pipe inspection through a CCTV video system, and isolated emergency repairs (CH2MHILL 2006). In addition, while the City's sewer system provides wastewater conveyance throughout the City, there are existing septic tanks in Arcadia. These are located at the Santa Anita Park racetrack and other older developments at the edges of the City. However, in accordance with the LARWQCB's Order No. R4-2004-0146 and the Uniform Plumbing Code, septic systems are no longer permissible for new development in the City of Arcadia.



Source: AKM 2007

Existing Water System

Exhibit 4.16-2

Arcadia General Plan Update

BonTerra CONSULTING

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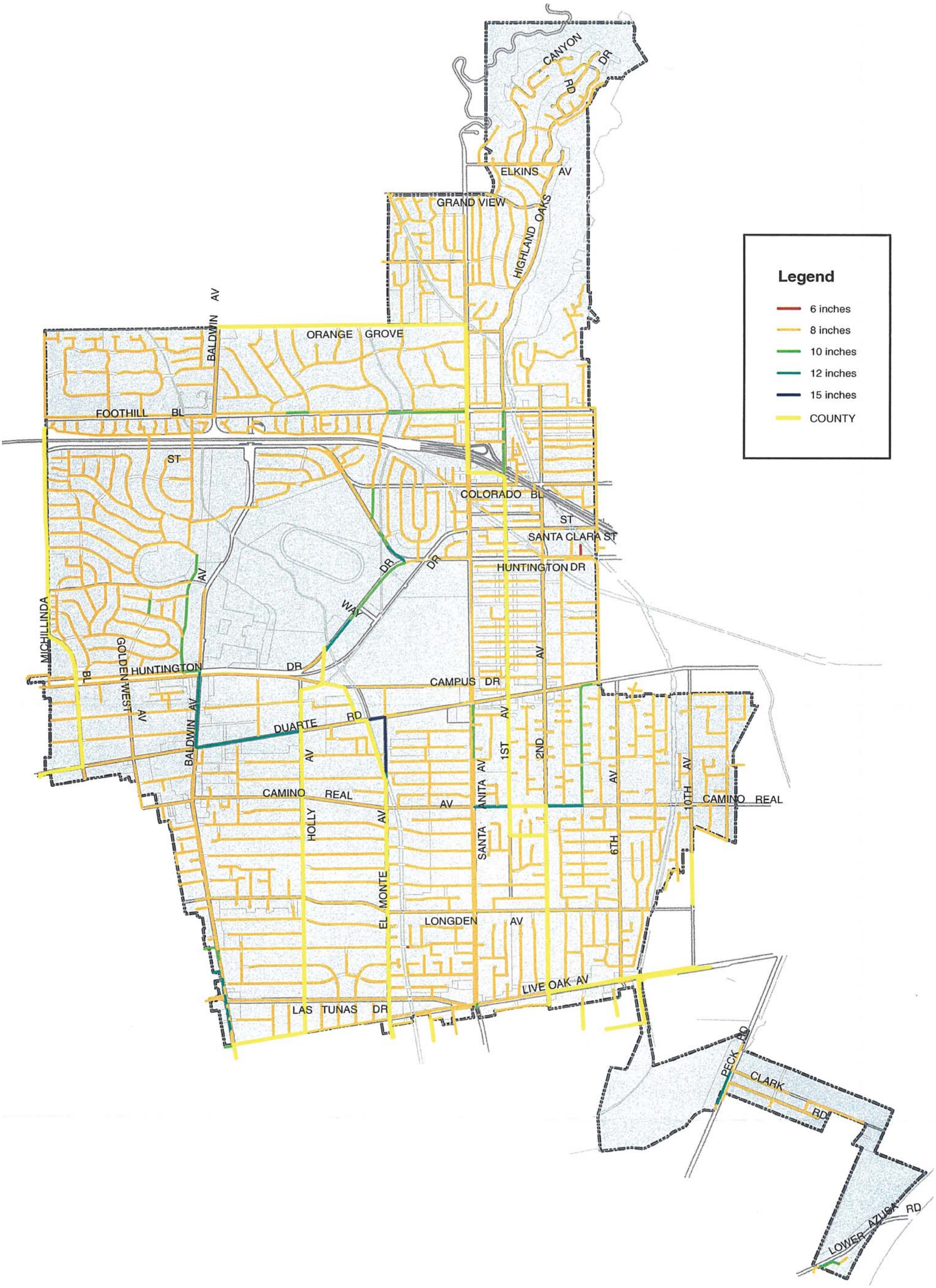

Source: CH2MHill, 2006

Existing Sewer Lines

Exhibit 4.16-3

Arcadia General Plan Update

N W E S

BonTerra CONSULTING

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Sanitation Districts of Los Angeles County Facilities

LACSD District Nos. 15 and 22 serve the City of Arcadia and the surrounding Cities of Sierra Madre, Temple City, Rosemead, El Monte, San Gabriel, La Puente, and Baldwin Park. The LACSD sewer trunk lines and related facilities serving Arcadia generally convey wastewater southerly on major streets (toward downstream wastewater reclamation plants) and include the Santa Anita Outfall El Monte Avenue trunk sewer, the Arcadia-Sierra Madre trunk sewers, and Peck Road pumping plant.

The LACSD operates three wastewater treatment facilities that treat wastewater generated in the City of Arcadia: (1) the Whittier Narrows Water Reclamation Plant (WRP), located near the City of South El Monte, with a design capacity of 15 million gallons per day (mgd) and an average flow of 5.4 mgd; (2) the San Jose Creek WRP, located adjacent to the City of Industry, with a design capacity of 100 mgd and an average flow of 77.1 mgd; and (3) the Los Coyotes WRP, located in the City of Cerritos, with a design capacity of 37.5 mgd and an average flow of 27 mgd (LACSD 2009). The LACSD has indicated that there are no deficiencies in its facilities that serve the City. Specifically regarding wastewater treatment, based on the current average daily flows described above, there is a total of 43 mgd of remaining wastewater treatment capacity at the three WRP's serving the City (LACSD 2009).

Solid Waste

Solid waste collection services in the City are provided by private haulers for disposal at area landfills. Waste Management, Inc. (WM) serves single-family residential uses, while multi-family and non-residential uses are served by various commercial waste haulers. Programs that help reduce the amount of residential wastes sent to local landfills include fully automated green waste collection and recycling, weekly recyclables collection, extensive consumer education and information on the City's website, and composting assistance (Hogle-Ireland 2010).

The nearest landfill to the City is the Puente Hills Landfill and Materials Recovery Facility (MRF). This facility is owned and operated by the LACSD, and encompasses 1,365 acres with 433 acres of disposal area. The Puente Hills Landfill is permitted to accept 13,200 tons per day (tpd) and currently accepts approximately 9,330 tpd. In 2006, it had a permitted capacity of 106 million cubic yards and a remaining capacity of 49 million cubic yards (CIWMB 2009). The MRF is a buy-back center that accepts aluminum cans, glass, plastic containers, steel cans, newspapers, cardboard, and electronic wastes of approximately 600 tpd (LACSD 2009).

The City's refuse-to-energy program for multi-family residences collects wastes from multi-family residences and takes them to the Commerce Refuse-to-Energy Facility (CREF) in the City of Commerce (Hogle-Ireland 2010). The CREF burns 350 tpd of solid waste to generate electricity for 20,000 homes. Ash residues are mixed with water and concrete for use as roadway base at local landfills (LACSD 2006).

The California Department of Resources Recycling and Recovery (CalRecycle) reports that the City of Arcadia generated approximately 58,218 tons of wastes in 2008, with 51,736 tons disposed at landfills and 6,476 tons burned at waste-to-energy facilities. CalRecycle reports the City's diversion rate in 2006 was 64 percent (CalRecycle 2010b).

Hazardous Waste

The City offers curbside pickup service of household hazardous waste. In addition, the County of Los Angeles sponsors a Household Hazardous Waste program, which educates the public

about toxic household waste dangers and proper disposal, and provides regular collection events where people can bring their hazardous waste for disposal (Hogle-Ireland 2010). Hazardous wastes and materials are addressed in Section 4.7, Hazards and Hazardous Materials, of this EIR.

Hazardous materials must be disposed of or transported to a licensed disposal or treatment facility. Class III landfills cannot accept hazardous materials; these must be disposed in a Class I and Class II facility. There are no Class I or Class II landfills in the County of Los Angeles. However, there are two Class I and/or Class II landfills that exist in Central and Southern California that can accept hazardous waste generated within Los Angeles County, identified below:

- ***Kettleman Hills Landfill, Kettleman City, Kings County, California.*** This is a Class I and Class II permitted landfill that accepts both hazardous and non-hazardous waste with a daily permitted capacity of 8,000 tpd and a remaining capacity of 6 million cubic yards as of 2000 (CalRecycle 2010c).

- ***McKittrick Waste Treatment Site, McKittrick, Kern County, California.*** This facility is a Class II permitted landfill that accepts both hazardous and non-hazardous waste with a daily permitted capacity of 1,180 tpd and a remaining capacity of approximately 840,000 cubic yards as of 2001 (CalRecycle 2010d).

Construction Waste

Arcadia Reclamation, Inc. operates an inert materials landfill on the former Rodeffer quarry site adjacent to the Interstate 605 (I-605) Freeway at the southeastern end of Arcadia. This site accepts concrete, asphalt, clean dirt, brick, block, rock, sand, rebar, stucco, and reinforced concrete pipe, most of which generally can be classified as construction debris. Once filled, the site is expected to be redeveloped with industrial and/or commercial uses (Hogle-Ireland 2010).

Electricity, Natural Gas, and Communication Infrastructure

Electricity and Natural Gas

Southern California Edison (SCE) provides electrical service to the City of Arcadia, with four substations located within the City (LSA 1996): (1) Anita Substation (200 West Live Oak Avenue); (2) Arcadia Substation (Second Avenue and St. Joseph Avenue); (3) Mayflower Substation (320 West Jeffries Street); and (4) Michillinda Substation (9185 East Fairview Avenue). Underground and overhead electrical distribution lines are present within City streets and yard easements, and high-voltage transmission lines exist along the I-605 Freeway.

Sempra Utilities (formerly known as the Southern California Gas Company) provides natural gas services to the City of Arcadia. Aside from distribution lines and laterals on City streets and easements, a high-pressure gas line owned by Sempra Utilities crosses the City along Duarte Road from Holly Avenue to Mountain Avenue in Monrovia (PHMSA 2007). This pipeline is located at least 42 inches below the ground surface and is constructed of welded steel with a cathodic protection system (The Planning Center 2007).

Communication Systems

Telephone services in the City of Arcadia are provided by AT&T, as the local exchange carrier, and Verizon, as a competitive local exchange carrier. Telecommunications services are offered

by Time Warner Cable and Champion Broadband. There are existing telephone, telecommunication, and cable television lines and facilities throughout the City.

4.16.4 THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are derived from the Environmental Checklist Form included as Appendix G of the CEQA Guidelines. The project would result in a significant adverse impact related to utilities and service systems if it would:

Threshold 4.16a: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;

Threshold 4.16b: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

Threshold 4.16d: Have sufficient water supplies available to serve the project for existing entitlements and resources, or are new or expanded entitlements needed;

Threshold 4.16e: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

Threshold 4.16f: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and/or

Threshold 4.16g: Comply with Federal, State, and local statutes and regulations related to solid waste.

The City of Arcadia, similar to most cities in Southern California, does not have an established threshold for effects to dry utilities (electricity, natural gas, and communication systems). For purposes of this analysis, the following thresholds of significance were applied for the analysis of dry utilities. The project would result in a significant adverse impact related to utilities and service systems if it would:

Threshold 4.16h: Require or result in the construction of new electric, natural gas or communication facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Threshold 4.16i: Encourage the wasteful or inefficient use of energy.

The following threshold is addressed in Section 4.9, Hydrology and Water Quality, of this EIR. The project would result in a significant adverse impact related to hydrology and water quality if it would:

Threshold 4.16c: Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

4.16.5 GENERAL PLAN GOALS, POLICIES, AND IMPLEMENTATION ACTIONS

A number of goals and policies in the General Plan Update address the provision of adequate utilities and service systems to serve existing and future developments in the City. Implementation of these goals and policies would reduce impacts on utilities. These include:

> ***Policy LU-1.10:*** *Require that new development projects provide their full fair share of the improvements necessary to mitigate project generated impacts on the circulation and infrastructure systems.*

Goal RS-3: *Promoting and utilizing clean forms of transportation to reduce Arcadia's carbon footprint.*

> ***Policy RS-3.1:*** *Develop a City fleet that to the extent feasible uses clean, alternative fuel and consists of energy-efficient vehicles.*
>
> ***Policy RS-3.2:*** *Incorporate energy-efficient vehicles into the City's transit system.*
>
> ***Policy RS-3.3:*** *Educate residents on methods of sustainable driving techniques such as: reducing excessive speeding, preventing car idling, regular car maintenance for maximizing fuel efficiency, and car pooling.*
>
> ***Policy RS-3.4:*** *Promote residents' and business owners' awareness and education of traffic congestion's affect on air pollution and help create voluntary programs that reduce traffic throughout the City.*

Goal RS-4: *Wise and sustainable water use practices that respond to and support the needs of City residents and businesses.*

> ***Policy RS-4.1:*** *Continue to participate in regional programs that protect water resources in Arcadia.*
>
> ***Policy RS-4.2:*** *Address state-of-the-science approaches to water supply, demand, and conservation as part of regular updates to the City's Urban Water Management Plan, including the possibility of using reclaimed water as part of a groundwater basin recharge strategy.*
>
> ***Policy RS-4.3:*** *Require that applications for major new development projects address the adequacy and reliability of water supplies as described in SB 610.*
>
> ***Policy RS-4.4:*** *Maintain a high level of groundwater recharge capacity within formal recharge facilities belonging to the City.*
>
> ***Policy RS-4.5:*** *Analyze the City's current water conservation programs (such as plumbing retrofits, public information programs) to expand, as necessary, to increase the effectiveness of City efforts to reduce water consumption.*
>
> ***Policy RS-4.6:*** *Implement aggressive public and private programs to reduce water use and water waste associated with landscape irrigation, including the planting of native and drought-tolerant plants, use of efficient irrigation systems, and collection and recycling of runoff.*

Policy RS-4.7: *Cooperate with the efforts other cities and agencies and pursue City-sponsored ventures to make use of recycled water more cost effective. Prioritize establishment of recycled water infrastructure and services and implement the use of recycled water at schools, parks, at City facilities, and other potential irrigation, commercial, or industrial use sites.*

Policy RS-4.8: *Explore how private on-site storm water capture systems can be designed and maintained to maximize protection of surface water quality and groundwater basin recharge capabilities.*

Policy RS-4.9: *Incorporate Low Impact Development (LID) strategies into new construction and city projects.*

Policy RS-4.10: *Fulfill the City's responsibilities relative to the requirements of the County's NPDES permit program by enforcing regulations aimed at reducing groundwater and urban runoff pollution.*

Policy RS-4.11: *Maintain contingency plans for continuing water service in the event of large-scale emergencies.*

Policy RS-4.12: *Require the installation of efficient irrigation systems (e.g., drip irrigation, soil moisture sensors and automatic irrigation systems) which minimize runoff and evaporation, and which maximize the water that will reach the plant roots.*

Policy RS-4.13: *Investigate the efficacy and long-term benefits - both environmentally and fiscally - of using pervious pavement systems.*

Policy RS-4.14: *Consider requiring the plumbing retrofit of older existing buildings with water-efficient plumbing fixtures when the unit is sold.*

Goal RS-5: *Wise and creative energy use that incorporates new technologies for energy generation and new approaches to energy conservation.*

Policy RS-5.1: *Support State agencies' efforts to adopt regulations that can increase the thermal integrity of buildings, increase the efficiency of combustion equipment, and reduce building thermal loads through controls or automation.*

Policy RS-5.2: *Support the development and use of alternative energy technologies for regional and local use. Remove barriers to use of individual energy systems that are consistent with City aesthetic and design objectives.*

Policy RS-5.3: *Require that all new development meets or exceeds the state and local energy conservation requirements.*

Policy RS-5.4: *Investigate the options for adopting local "green" building standards that address energy use in particular. Consider having City facilities serve as a model for energy efficiency by incorporating state-of-the-art energy features in new public buildings and significant remodeling of existing buildings.*

Policy RS-5.5: *Support State legislative initiatives to revise utility rates in a manner that provides incentives for energy conservation and provides funding for research and development of alternative energy sources.*

Policy RS-5.6: *Reduce the amount of energy consumed by City operations, and assist residents and businesses in reducing their energy consumption by:*

- *emphasizing fuel efficiency in the acquisition and use of City-owned vehicles and equipment;*
- *periodically reviewing energy consumption in City buildings and implement programs to reduce energy use; and*
- *increasing public awareness of energy conservation techniques through the public dissemination of conservation information.*

Policy RS-5.7: *Promote the installation of heat recovery and co-generation facilities, where feasible, in new industrial and large commercial developments.*

Policy RS-5.8: *Promote innovative building, site design, and orientation techniques which minimize energy use.*

Policy RS-5.9: *Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.*

Policy RS-5.10: *Support efforts at the State and federal levels relative to the funding of research and the development of renewable/reusable energy sources.*

Policy RS-5.11: *Support efforts of the City's electricity provider that increase energy conservation in all households and businesses.*

Policy RS-5.12: *Adopt green building guidelines and/or incentives, which may include assessing green building techniques as a formal stage of City design review and developing a green building ordinance or program that addresses both new and existing buildings.*

Policy RS-5.13: *Promote the application of active solar energy systems in residential development by facilitating, where possible, the efforts of federal and state entities in the allocation of cost incentive programs.*

Policy RS-5.14: *Explore the possibility of identifying City facilities that can accommodate solar installations.*

Policy RS-5.15: *Educate the public on sustainable building practices and the environmental and economic benefits they offer.*

Policy RS-5.16: *Set an example in the design and operation of new civic buildings by implementing LEED or similar building standards.*

Policy RS-5.17: *Investigate providing incentives for LEED or equivalent for new and/or retrofitted private commercial and industrial buildings.*

Goal RS-6: *A higher level of waste reduction and recycling city-wide relative to 2009 achievements.*

Policy RS-6.1: *Pursue efforts that increase composting and recycling, and reduce waste generation, focusing especially on large commercial and industrial waste producers.*

Policy RS-6.2: *Reassess the City's Source Reduction and Recycling Element (California Integrated Waste Management Act) as needed to determine whether new goals or programs are required.*

Policy RS-6.3: *Consider in the contracting of waste haulers their ability, commitment, and proven record of recycling and composting waste.*

Policy RS-6.4: *Adopt City guidelines for City goods purchases that incorporate consideration of packing and shipping materials used.*

Policy RS-6.5: *Continue and expand public education and outreach programs regarding reduction and recycling of materials.*

Policy RS-6.6: *Pursue efforts to expand the use of rubberized asphalt on City streets and at City facilities.*

Goal CI-9: *A water production, storage, and distribution system that provides quality service equally to all areas of Arcadia, allows the City to maximize use of local water sources, and includes use of recycled water.*

Policy CI-9.1: *Continue to meet customer demands for the efficient and quality delivery of water services.*

Policy CI-9.2: *Pursue water system upgrades and efficiencies that can reduce water waste.*

Policy CI-9.3: *Increase water system redundancy for supply, transmission, storage, and control.*

Policy CI-9.4: *Update the Water Master Plan on a regular basis, with the objective of a five-year update cycle.*

Policy CI-9.5: *Use the annual capital planning and funding process to identify immediate, near-term, and longer-term funding priorities for water system improvements.*

Policy CI-9.6: *Require developers to pay the full costs associated with water system improvements needed specifically to service their development, as well as fair-share costs for enhancements identified in the Water Master Plan and Capital Improvement and Equipment Plan.*

Policy CI-9.7: *Look for grant opportunities for funding water system improvements.*

Policy CI-9.8: *Continue to implement programs that require use of low-flow plumbing fixtures and other water conservation features as a means of optimizing existing water production, storage, and transmission infrastructure, and to reduce volumes of wastewater entering the sewage collection system.*

Policy CI-9.9: *Continue to investigate the time-frame and funding opportunities needed to provide recycled water or other non-potable source water for irrigation and other acceptable applications.*

Policy CI-9.10: *Support regional efforts to use recycled water to recharge groundwater basins.*

Goal CI-10: *A local wastewater collection system that provides quality service equally to all areas of Arcadia.*

Policy CI-10.1: *Update the Sewer Master Plan and Hydraulic Modeling Report on a regular basis.*

Policy CI-10.2: *Provide adequate capacity to convey all sewage flows.*

Policy CI-10.3: *Minimize frequency of sanitary sewer overflows, with an objective of zero per year.*

Policy CI-10.4: *Properly manage, operate, and maintain all parts of the wastewater collection system.*

Policy CI-10.5: *Require developers to pay the full costs associated with sewer system improvements needed specifically to service their development, as well as fair-share costs for enhancements identified in the Capital Improvement and Equipment Plan.*

Policy CI-10.6: *Maintain aggressive and effective business inspection programs that help reduce the volume of grease and other detrimental materials from entering sewer lines.*

Goal CI-12: *Waste management practices that provide efficient and cost-effective services to Arcadia residents, businesses, and institutions, and that include an emphasis on waste reduction and recycling.*

Policy CI-12.1: *Contract waste management services with companies that can help the City achieve waste reduction goals mandated by the State and local objectives for minimizing the volumes of waste that enter landfills.*

Policy CI-12.2: *Decrease overall community consumption of non-local, non-renewable, and non-recyclable materials.*

Policy CI-12.3: *Encourage sustainable procurement and extended producer responsibility.*

Policy CI-12.4: *Continue to educate consumers about the importance of proper disposal of hazardous materials and e-waste.*

Goal CI-13: *Private telecommunications and utilities infrastructure and services responsive to consumer demands and consistent with City aesthetic objectives.*

Policy CI-13.1: *Work with telecommunications service providers to meet the needs and demands of businesses, residents, and institutions for high-quality and state-of-the-art telecommunications infrastructure and services, including the provision of top-level signal quality and cell phone services throughout the City.*

Policy CI-13.2: *Continue to enforce City ordinances that facilitate the placement of utilities and telecommunications facilities in a manner that minimizes visual impact.*

Policy CI-13.3: *Continue to require the placement of utilities underground for all new developments.*

A number of implementation actions in the General Plan Update would reduce impacts related to utilities and service systems. These include:

Implementation Action 4-11: *Water System Enhancements*

Implementation Action 4-12: *Coordination with Utility Agencies and City Facilities*

Implementation Action 4-13: *Infrastructure Master Plan Updates*

Implementation Action 4-14: *Inspection and Replacement of Sewer Lines*

Implementation Action 6-1: *Development Projects and Energy Performance Guidelines*

Implementation Action 6-2: *Energy Conservation Demonstration Projects*

Implementation Action 6-3: *Conservation Education and Promotion*

Implementation Action 6-4: *Green Building Initiatives*

Implementation Action 6-6: *Solar Energy*

Implementation Action 6-7: *Water Supply*

Implementation Action 6-8: *Water Quality*

Implementation Action 6-9: *Water Conservation*

Implementation Action 6-10: *Waste Reduction and Recycling*

4.16.6 STANDARD CONDITIONS

There are existing federal, State, regional, and local regulations that relate to the provision of utilities, the conservation of water and energy resources, and the reduction in the demand for landfill capacity, and are listed below.

SC 4.16-1 All water, sewer, storm drain, and other utility infrastructure improvements within the City shall be conducted in compliance with the applicable regulations set forth in the *Arcadia Municipal Code*, which incorporates by reference applicable State regulations, including those that adopt the California Building Code, California Plumbing Code, California Electrical Code, and California Mechanical Code. Article IX, Chapter 1, Subdivision Code, sets forth standards for the review and approval of all development plans by the City Engineer and requires that the project applicant/developer provide utility facilities in accordance with the standards and specifications approved by the City Engineer.

SC 4.16-2 The City of Arcadia shall require all future projects implemented pursuant to the 2010 General Plan Update that are subject to SB 610 and/or SB 221 to comply with all applicable requirements in order to demonstrate the availability of an adequate and reliable water supply.

SC 4.16-3 All new construction and rehabilitated landscapes for public agency projects and private non-residential development projects of a qualifying size shall be subject

to compliance with the Water Efficient Landscape Ordinance. In compliance with City regulations, development projects that fall into these categories shall implement water conservation measures in accordance with the standards for plant selection and grouping, water features standards, irrigation design and system requirements, and soil and grading requirements.

SC 4.16-4 In compliance with the LACSD's Wastewater Ordinance, all wastewater discharges into LACSD facilities shall be required to comply with the discharges standards set forth to protect the public sewerage system. The LACSD Surcharge program requires all industrial companies discharging to the LACSD sewerage system to pay their fair share of the wastewater treatment and disposal costs, and the Connection Fee program requires all new users of the LACSD sewerage system, as well as existing users that significantly increase the quantity or strength of their wastewater discharge, to pay their fair share of the costs for providing additional conveyance, treatment, and disposal facilities.

SC 4.16-5 All development projects in the City shall implement waste reduction, disposal, and recycling measures during construction and operation in accordance with the City's Source Reduction and Recycling Element (SRRE), prepared in compliance with the California Integrated Waste Management Act, as well as provide collection and loading areas for recyclables, as required under the City's Zoning Regulations.

SC 4.16-6 The City of Arcadia shall require all future projects implemented under the 2010 General Plan Update to comply with all State Energy Efficiency Standards and City Municipal Code requirements in effect at the time of application for building permits (Title 24). Title 24 covers the use of energy-efficient building standards, including ventilation, insulation, and construction and the use of energy saving appliances, conditioning systems, water heating, and lighting, as well as the Title 24 Green Buildings Standards on planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Plans submitted for building permits shall include written notes demonstrating compliance with energy and green building standards and shall be reviewed and approved by the Planning Department prior to building permit issuance.

Repeated from Section 4.6, Geology and Soils:

SC 4.6-8 All future development shall be conducted in compliance with the California Plumbing Code (Part 5 of the California Building Code), which provides standards for the design and construction of water and sewer systems, storm drains and recycled water systems in buildings, and which prohibits connection to a septic tank in areas served by a public sewer system. It also requires the proper abandonment of septic tanks, cesspools, and seepage pits.

4.16.7 ENVIRONMENTAL IMPACTS

Future development pursuant to the proposed General Plan Update would generate a demand for utility services.

Water and Wastewater Distribution Infrastructure

Threshold 4.16b: Would the proposed 2010 General Plan Update require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?[3]

Water Infrastructure

The Water Master Plan was updated in 2008 and includes an analysis of the water system's ability to serve projected water demand for the average day, maximum week, maximum day, and maximum day plus fire flow demand, showed that system deficiencies exist and improvements are needed to resolve these deficiencies. According to the Water Master Plan, the City's total pumping capacity is 20,400 gallons per minute with all wells operating at capacity, which is almost equal to the maximum day demand. If the largest capacity well is out of service or interrupted, the groundwater system would not be able to meet the maximum day demand.

The City's Water Master Plan recommends seven new wells in the Main Basin to allow the system to meet the maximum day demand when the largest capacity well is out of service and would provide an additional 10,500 additional gallons per minute of groundwater pumping capacity. If wells that pump water requiring blending prior to distribution remain in use, three alternate wells are also recommended.

Existing storage capacity within certain zones of the City is deficient, but can be compensated with the use of booster pump stations or portable pumps. Several reservoirs are reaching the ends of their useful lives and are proposed for replacement. Pressure-reducing stations are needed at five locations to augment fire flows, provide secondary supply, and convey imported water. Older pipes that have experienced leaks also need to be replaced.

In addition to the recommended improvements presented in the 2008 Water Master Plan, the City's current focus is on improving the efficiency of the water system. All projects identified in the Water Master Plan are evaluated each year for inclusion in the next year's Capital Improvement Program. The City indicated that planned water system improvements include:

- Annual Valve Replacement (routine maintenance to replace non-working water main valves);
- Structural repair of Baldwin Reservoirs 2 and 3 (structural concrete repair of roof support and seismic upgrade to roof columns);
- Flow meter for the St. Joseph facility (to provide flow quantity information used in operation of the facility's blending operation);
- Water main replacement on Monte Verde and Highland Vista (replacement of water main with recurring leaks or service calls);
- Camino Real Well No. 3 (construction of new well to serve pressure Zone 3);
- Longley Well No. 3 (construction of new well to serve pressure Zone 4);

[3] The following analysis addresses only water treatment facilities. The analysis of wastewater treatment facilities is provided further below in this section.

- Main Line installation (Colorado Street between Altura Road and Vaquero Road to improve flow throughout the high boundary of pressure Zone 2);
- Construct a Pressure-Reducing Station between pressure Zones 2 and 2A (to provide redundant source of regulated supply to Zone 2A in the event the existing source is damaged or in need of repair); and
- Water main replacement (anticipated ongoing annual repair and replacement of aging or deficient water mains).

Implementation of the Water Master Plan and water system improvement projects set forth in the Plan would resolve existing deficiencies and upgrade the water system to adequately serve the needs of the expected future development (AKM 2008). However, the size and timing of future development projects could result in the need for water infrastructure improvements prior to the implementation of the Capital Improvement Program projects identified above. Therefore, future development has the potential to result in deficiencies if water system upgrades are not completed prior to new development in areas where potential deficiencies have been identified.

To avoid the creation or exacerbation of water infrastructure deficiencies, MM 4.16-1 requires the City to mandate that all future development applications provide an adequate engineering analysis of project-specific impacts to utility infrastructure and identify specific improvements that would eliminate the impacts. In addition, compliance with the City's standards for water line design and construction (SC 4.16-1) would allow the provision of necessary infrastructure improvements to adequately serve future development pursuant to the General Plan Update.

It is possible that new or expanded water distribution lines may be required for specific projects developed under the proposed General Plan Update. Construction-related impacts associated with the water utility infrastructure would be subject to project-specific environmental review pursuant to CEQA prior to implementation. Due to the developed nature of the City of Arcadia, it is expected that installation of new or upgrades to existing infrastructure would involve trenching in City streets or otherwise disturbed areas. Construction-related impacts from new development associated with buildout of the City under the General Plan Update, including infrastructure, is included in Sections 4.1 through 4.17 of this EIR, and specifically Section 4.3 (Air Quality), Section 4.11 (Noise), and Section 4.15 (Traffic and Transportation).

Wastewater Infrastructure

The City's 2005 Sewer Master Plan and Hydraulic Modeling Report identified pipeline capacity deficiencies on the following segments, requiring an upgrade of the existing pipe to a larger pipe or installation of a parallel pipe:

- Replace 1,491 feet of pipeline within Huntington Drive (near Campus Drive);
- Replace 2,191 feet of pipeline at Colorado Place (near Huntington Drive);
- Replace 2,309 feet of pipeline on Sixth Street;
- Replace 513 feet of pipeline in Old Ranch Road (south of Arboretum); and
- Replace 1,655 feet of pipeline in Baldwin Avenue (north of Duarte Road).

In addition to these deficiencies, the Sewer Master Plan identified existing surcharging in certain LACSD-owned lines that are impacting the conveyance capacity of the City's system. These facilities are not within the City's jurisdiction to upgrade.

The identified deficiencies to the City's sewer infrastructure may be eliminated before development occurs upstream of these pipes, as the sewer system improvements continue to be implemented under the City's Capital Improvement Program. However, the timing of future development could result in the need for infrastructure improvements prior to the implementation of the Capital Improvement Program projects identified above. Additionally, required improvements may include LACSD-owned lines, for which the City has no authority to implement. LACSD has no current deficiencies in the sewage system that services the City. As additional flows are incrementally generated within the City and LACSD trunk lines approach capacity, construction of relief trunk sewers is scheduled, depending on the availability of project funding (LACSD 2009).

Therefore, future development has the potential to result in sewer infrastructure deficiencies if sewer system upgrades are not completed prior to new development in upstream areas where deficiencies have been identified.

In order to prevent future development from creating or exacerbating wastewater infrastructure deficiencies, MM 4.16-1 requires the City to mandate that all future development applications provide an adequate engineering analysis of project-specific impacts to utility infrastructure and identify specific improvements that would eliminate the impacts. In addition, compliance with the City's standards for wastewater line design and construction (SC 4.16-1) would require that infrastructure improvements are adequate to serve future development pursuant to the General Plan Update.

While the City's sewer system provides wastewater conveyance throughout the City, there are existing septic tanks in Arcadia. These are located at the Santa Anita Park racetrack and other, older developments at the edges of the City. However, septic systems are no longer permissible for new development in the City of Arcadia in accordance with the LARWQCB's Order No. R4-2004-0146 and the Uniform Plumbing Code. Compliance with SC 4.6-8 from Section 4.6, Geology and Soils, of this EIR would prevent septic systems to be constructed when sewer lines are available and would require proper abandonment of existing septic systems.

Compliance with SC 4.16-1, SC 4.6-8, and implementation of MM 4.16-1 would reduce the potential impacts from future development pursuant to the General Plan Update and related to sewer infrastructure improvements to less than significant levels. In addition, Implementation Actions 4-12, Coordination with Utility Agencies and City Facilities; 4-13, Infrastructure Master Plan Updates; 4-14, Inspection and Replacement of Sewer Lines; 6-3, Conservation Education and Promotion; and 6-4, Green Building Initiatives would further reduce impacts related to sewage generation from future development pursuant to the General Plan Update.

It is possible that new or expanded water distribution lines may be required for specific projects developed under the proposed General Plan Update. Construction-related impacts associated with new water utility infrastructure would be subject to project-specific environmental review pursuant to CEQA prior to implementation. Due to the developed nature of the City of Arcadia, it is expected that installation of new infrastructure or upgrades to existing infrastructure would involve trenching in City streets or otherwise disturbed areas. Construction-related impacts from new development associated with the buildout of the General Plan Update, including infrastructure, is included in Sections 4.1 through 4.17 of this EIR, and specifically Section 4.3 (Air Quality), Section 4.11 (Noise), and Section 4.15 (Traffic and Transportation).

Water Supply

Threshold 4.16d: Would the proposed 2010 General Plan Update require new or expanded entitlements and resources to have sufficient water supplies available to serve the project?

Future development pursuant to the General Plan Update would generate a demand for water that will require increased pumping of groundwater resources or imported water use. Table 4.16-3 estimates water demand at buildout of the City using the highest 10-year average (from 1995 to 2009) per capita use of 294.4 gallons per capita per day (gpcd) and assuming compliance with the water reduction targets of SBX7_7.

TABLE 4.16-3
PROJECTED WATER DEMAND BASED ON POPULATION

Year	Estimated Arcadia Water System Population	Projected Per Capita Water Use (gpcd)[a]	Water Demands Based on Population (gpd)	Water Demands based on Population (afy)
2010	54,504	294.4	16,047,343	17,975
2015	55,506	265.0	14,708,107	16,475
2020	56,508	235.5	13,309,872	14,909
2025	57,510	235.5	13,545,870	15,173
2030	58,512	235.5	13,781,869	15,438
2035	59,514	235.5	14,017,868	15,702

gpcd: gallons per capita per day

Notes:
[a] Based on SBX7_7, a selected 10-year average per capita water use (294.4 gpcd), beginning in at least 1995 and ending no later than 2010, is required to be reduced by 10 percent on or before December 31, 2015, and by 20 percent by 2020.

Projections of the resident population of the City were based on buildout estimates in the General Plan Update, with future water demand estimated as required by SBX7_7. Specifically, water demand was based on the highest average 10-year demand from 1995 to 2009 (as the baseline per capita daily use) and accounts for a 10 percent reduction by 2015 and a 20 percent by 2020 by calculating 90 to 80 percent of the City's baseline per capita daily water use. With a 10-year average demand of 294.4 gpcd, the City would need to achieve a per capita water use of 265.0 gpcd by 2015 (or 90 percent of 294.4 gpcd) and achieve a per capita water use of 235.5 gpcd by 2020 (or 80 percent of 294.4 gpcd). As shown, water demand is estimated at 17,975 afy in 2010, decreasing to 15,702 afy in 2035.

In addition to future water demands based on the City's projected population, Table 4.16-4 estimates additional water demand from future non-residential development pursuant to the General Plan Update.

Water demand from non-residential development in the City was added into the projected demands to account for future commercial, light industrial, and mixed-use developments that are anticipated to lead to increased water demands at an average water use rate of 200 gallons per day (gpd) per 1,000 square feet (Stetson 2010).

TABLE 4.16-4
PROJECTED DEMANDS BASED ON NON-RESIDENTIAL REDEVELOPMENT AREAS

Non-Residential Redevelopment Areas	Non-Residential (sf)	Demand Within City of Arcadia (gpd)[a]	Demand Within City of Arcadia (afy)	Estimated Percent of Demand Within Arcadia Water System	Demand Within Arcadia Water System (afy)[b]
Downtown Arcadia	3,124,820	624,964	700	100%	700
First Avenue and Duarte Road	471,354	94,271	106	100%	106
Live Oak Avenue	1,129,493	225,899	253	50%	127
Lower Azusa Road Reclamation Area[b]	1,610,152	322,030	361	0%	0
Baldwin Avenue and Duarte Road	1,311,853	262,371	294	70%	206
Santa Anita Park	888,624	177,725	199	100%	199
City (Outside Focus Areas)[c]	5,175,625	1,035,125	1,159	96%	1,113
Total (Buildout)	**13,711,921**		**3,072**		**2,450**

sf: square feet; gpd: gallons per day; afy: acre-feet per year

Notes:
[a] Based on an average non-residential water demand of approximately 200 gallons per day (gpd) per 1,000 square feet of light industrial and commercial use, including markets, stores, movie theaters, restaurants, and office space. Commercial water demands based on information provided by AKM Consulting Engineers from Arcadia's 2006 "Caruso Affiliated / Magna Entertainment Corp" Water Supply Assessment.
[b] Lower Azusa Road Reclamation Area is served by the SGVWC and is not included in Arcadia's water system water demands.
[c] Arcadia Water System demand based on population of City of Arcadia served by the Arcadia water system, or approximately 96 percent.

Table 4-16-5 provides the total water demand in the City, as provided by the City and other water companies serving the City.

TABLE 4.16-5
PROJECTED TOTAL WATER DEMANDS AT BUILDOUT

	Arcadia Water System			Served by Others			
Year	Water Demands Based on population Increase	Non-Residential Demand	Sub-Total	Water Demands Based on Population Increase	Non-Residential Demand	Sub-Total	Total City of Arcadia Water Demands
2010	17,975	0	17,975	749	0	749	**18,724**
2015	16,475	490	16,965	686	124	811	**17,776**
2020	14,909	980	15,889	621	249	870	**16,759**
2025	15,173	1,470	16,643	632	373	1,005	**17,649**
2030	15,438	1,960	17,398	643	497	1,141	**18,538**
2035	15,702	2,450	18,152	654	622	1,276	**19,428**

Notes:
[1] Other water systems providing water service to portions of the City of Arcadia include the SGVWC, the GSWC, the CAWC, Sunny Slope Water Company, and East Pasadena Water Company.

As shown in Table 4.16-5 above, the total water demand in the City is projected to increase from approximately 17,980 afy (current) to approximately 18,150 afy (buildout). The water demand within the City of Arcadia from the other water companies are projected to increase

from approximately 750 afy (current) to approximately 1,280 afy (buildout). Total water demands in the City of Arcadia are projected to increase from approximately 18,720 afy (current) to approximately 19,428 afy at buildout (Stetson 2010).

Total water demand of 19,428 afy would require water supplies from groundwater resources, with replacement water supplied by imported water and recycled water. This represents an increase over current 2010 water demands and would result in a significant impact if projected water supplies cannot meet projected water demands.

The primary sources of water supply in the City will continue to be groundwater resources in the Main Basin and Raymond Basin. The City also has access to treated imported water from MWD through the Upper District (Stetson 2010). The Arcadia water system can produce its water rights (3,526.0 afy) from the Santa Anita Subarea and production of 70 percent (1,482.6 afy) of its water rights from the Pasadena Subarea of the Raymond Basin (beginning fiscal year 2013/2014), for a total of 5,008.6 afy. All remaining water demands can be supplied by groundwater production from the Main Basin. Water demand and supply projections for five-year increments are provided in the WSA, and Table 4.16-6 shows that the City will have adequate supplies to meet projected demands by 2035 (Stetson 2010).

TABLE 4.16-6
ARCADIA WATER SYSTEM DEMANDS AND SOURCES AT BUILDOUT

	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Demand	18,152.0	18,165.0	19,239.0	18,135.0	14,434.0
Raymond Basin Supply					
Pasadena Subarea	1,482.6	1,482.6	1,482.6	1,482.6	1,482.6
Santa Anita Subarea	3,526.0	3,526.0	3,526.0	3,526.0	3,526.0
Subtotal	**-13,143.0**	**-13,156.0**	**-4,230.0**	**-13,126.0**	**-9,426.0**
Main San Gabriel Basin Supply	25,160.0	25,160.0	25,160.0	25,160.0	25,160.0
Total Surplus	**12,017.0**	**12,004.0**	**10,930.0**	**12,034.0**	**15,734.0**

Notes:
Raymond Basin supply based on 30 percent reduction requirement over five years for all Decreed Rights to the Pasadena Subarea, beginning fiscal year 2009/2010.

Main San Gabriel Basin supply based on projected total pumping capabilities of groundwater wells (75% well operating factor). Average/Normal Year Demand based on Arcadia water system water demands in 2006 (See Table 6).

Single and Multiple Dry Year Demands based on proportions of historical average year demand of 17,020 afy (1986) to single dry year water demand of 17,032 afy (1999), and multiple dry year water demands of 18,039 afy, 17,004 afy, and 13,534 afy (1989, 1990, and 1991, respectively), as mentioned in Arcadia's 2005 Urban Water Management Plan Update.

In addition to groundwater supplies, the City may utilize imported water from the Upper District (historically up to 1,398.9 afy), up to 1,591.2 af of water stored in the Pasadena Subarea of the Raymond Basin, and lease of water rights in the Raymond Basin. While MWD has more restrictions on the availability of imported water and has implemented the Water Supply Allocation Plan (WSAP), the Upper District is actively promoting water conservation activities. Coupled with the conservation requirements of SBX7_7 and increased access to imported water for groundwater replenishment under MWD's WSAP, the Upper District will continue to deliver supplemental water to comply with the Main Basin Judgment. In addition, the Upper District is pursuing use of advanced, treated recycled water for groundwater replenishment, which will provide water supply redundancy to the Upper District in meeting its replacement water obligations (Stetson 2010).

Based on historical management practices, proposed programs in the Delta area promote greater flexibility in the delivery of SWP water, and the water conservation activities by Upper District pumpers and all Upper District pumpers from the Main Basin, including the Arcadia water system, are anticipated to have adequate supply from the Main Basin over the next 25 years under normal, single-dry, and multiple-dry years (Stetson 2010).

The projected total water demands from SGVWC, GSWC, CAWC, Sunny Slope Water Company, and East Pasadena Water Company are provided in Table 4.16-5, above. These water companies have also indicated their abilities to provide continuous and reliable water service to those portions of the City Arcadia within their respective service areas (See Appendix D of the WSA, which is included in Appendix K). These water companies have the necessary production and distribution facilities to supply projected water demands from the portions of the City of Arcadia served by these water companies through buildout (Stetson 2010).

SC 4.16-2 requires the preparation of a WSA for projects of a certain size to document that there are available water supplies to serve the development. Compliance with this regulation would provide for the availability of adequate water supplies to serve large development projects and prevent adverse impacts to existing water services.

A number of other existing regulations, as set forth in the City's Municipal Code, call for the implementation of water conservation measures to reduce water demand. Compliance with the City's Water Efficient Landscaping Ordinance is required (SC 4.16-3). This Ordinance contains landscaping requirements, including standards for plant selection and grouping, water features, irrigation requirements, and soil and grading for certain development projects. Other measures set forth in the City's Municipal Code (SC 4.16-1) would further reduce potential impacts to water supply, including a water survey program for residential customers; residential plumbing retrofit; system water audits; leak detection and repair; metering of all new connections and retrofit of existing connections; large landscape conservation programs and incentives; high-efficiency washing machine rebates; public information and school education programs; retrofit for commercial, industrial, and institutional accounts; penalties for overuse of water during drought; and ultra low flush toilet replacement.

SC 4.16-6 also requires compliance with Title 24, which will include water efficiency and conservation measures in its Green Building Standards that will become mandatory in 2011.

Compliance with SC 4.16-1, SC 4.16-2, 4.16-3 and SC 4.16-6 would reduce potential impacts to water supply to less than significant levels. The goals and policies in the Resource Sustainability Element and the Circulation and Infrastructure Element, as listed above, are intended to promote water conservation in existing and future developments. Specifically, Goal RS-4 of the Resource Sustainability Element of the General Plan Update calls for wise and sustainable water use practices, along with supporting policies to protect water resources and reduce waster use. Goal CI-9 of the Circulation and Infrastructure Element address water services in the City, with policies to maintain and improve the water system while reducing water demand and exploring recycled water use. Compliance with these goals and their supporting policies would reduce water demand and provide adequate water services in the City.

In addition, Implementation Actions 4-11, Water System Enhancements; 4-12, Coordination with Utility Agencies and City Facilities; 4-13, Infrastructure Master Plan Updates; 6-3, Conservation Education and Promotion; 6-4, Green Building Initiatives; 6-7, Water Supply; 6-8, Water Quality; and 6-9, Water Conservation would also reduce water demand from future development pursuant to the General Plan Update.

Wastewater Treatment and Infrastructure

Threshold 4.16a: Would the proposed 2010 General Plan Update exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Threshold 4.16e: Would the proposed 2010 General Plan Update result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Wastewater Treatment Requirements

All sewage treatment plants are subject to the water quality discharge requirements of the applicable NPDES permit. The City of Arcadia is within the jurisdiction of the LARWQCB and is subject to the waste discharge requirements of the Los Angeles County MS4 Permit, most recently December 10, 2010, by Order No. R4-2009-0130. Future development pursuant to the General Plan Update would increase sewage flows on City sewer lines, on LACSD trunk sewer lines, and at WRPs. Any sewer discharges that would cause a receiving WRP to exceed applicable NPDES requirements for discharges into MS4 facilities would result in a potentially significant impact.

Residential wastewater does not require levels of treatment that would exceed LARWQCB NPDES treatment requirements; however, some industrial, manufacturing, and/or commercial uses may generate wastewater requiring additional treatment.

SC 4.16-4 requires all wastewater discharges into LACSD facilities to comply with the discharges standards set forth in the Wastewater Ordinance, which protects the public sewerage system. The LACSD Surcharge Program requires all industrial companies discharging to the Districts' sewerage system to pay their fair share of the wastewater treatment and disposal costs, and the Connection Fee program requires all new users of the Districts' sewerage system, as well as existing users that significantly increase the quantity or strength of their wastewater discharge, to pay their fair share of the costs for providing additional conveyance, treatment, and disposal facilities. The LACSD also requires Industrial Wastewater Discharge Permits from developments that may exceed the treatment requirements of the LARWQCB, which may include conditions for on-site treatment of wastewater prior to release into the sewer system to prevent exceedance of LARWQCB treatment requirements. Compliance with SC 4.16-4 would reduce potential impacts related to wastewater treatment requirements to less than significant levels.

Wastewater Treatment Capacity

Future development pursuant to the General Plan Update would generate sewage and wastewater that will require conveyance and treatment. The sewage generation rates of the LACSD are used to estimate sewage from the increase in development that would be allowed under the General Plan Update in Table 4.16-7.

TABLE 4.16-7
ESTIMATED ADDITIONAL SEWAGE GENERATION AT BUILDOUT

Land Use	Units or Size	Generation Factor	Sewage Generation
Dwelling units in City	3,625 du	210 gpd	761,250 gpd
Dwelling units in SOI	(238 du)	210 gpd	(49,980 gpd)
Sub-Total	**3,387 du**		**711,270 gpd**
Non-residential floor area in City	3,507,422	0.35 gpsf	1,227,598 gpd
Non-residential floor area in SOI	1,237	0.35 gpsf	433 gpd
Sub-Total	**3,508,659**		**1,228,031 gpd**
		Total	***1,939,301 gpd***

du: dwelling unit; gpd: gallons per day; gpsf: gallons per square foot

Source: LACSD Table 1, with the residential factor as the average of the factors for a single-family home and large multi-family unit project, and the non-residential factor as the midpoint between various commercial uses (except for heavy water users).

As shown in Table 4.16-7, approximately 1,939,301 gpd (1.94 mgd) of additional wastewater would be generated by the increase in development in the City and its Sphere of Influence (SOI) at buildout. As discussed above, according to the LACSD, there are approximately 43 mgd of remaining capacity at the 3 WRPs serving the City. The incremental increase of 1.94 mgd would represent approximately 4.5 percent of the current available capacity. The LACSD is authorized by the *California Health and Safety Code* to charge a fee for connections to the LACSD sewage system. This connection fee is in an amount adequate to construct incremental expansions of the sewage system in order to accommodate proposed projects. Therefore, payment of applicable connection fees, as required by SC 4.16-4, would allow the LACSD to provide adequate capacity to serve the projected wastewater generation at buildout of the City under the General Plan Update. Therefore, the General Plan Update would not directly result in the need for new or expanded wastewater treatment facilities at buildout of the City. There would be a less than significant impact related to wastewater treatment facilities, and no mitigation is required.

As incremental expansions of treatment capacity is required over time, construction-related impacts associated with the sewer utility infrastructure would be subject to project-specific environmental review pursuant to CEQA prior to implementation. Due to the developed nature of the City of Arcadia, it is expected that installation of new infrastructure or upgrades to existing infrastructure would involve trenching in City streets or otherwise disturbed areas. Construction-related impacts from new development associated with buildout of the City under the General Plan Update, including infrastructure, is included in Sections 4.1 through 4.17 of this EIR, and specifically Section 4.3 (Air Quality), Section 4.11 (Noise), and Section 4.15 (Traffic and Transportation).

Solid Waste Disposal

Threshold 4.17f: Would the proposed 2010 General Plan Update be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Threshold 4.17g: Would the proposed 2010 General Plan Update comply with Federal, State, and local statutes and regulations related to solid waste?

Landfill Capacity

Future development pursuant to the General Plan Update would generate additional solid waste requiring collection and disposal. Using the 2008 disposal rates for the City (CalRecycle 2010), the increase in solid waste disposal (after diversion) in the City of Arcadia with the evaluated maximum buildout of the General Plan Update is summarized in Table 4.16-8.

TABLE 4.16-8
ESTIMATED SOLID WASTE DISPOSAL WITH 2010 GENERAL PLAN UPDATE BUILDOUT

2008 CIWMB Disposal Rates for Arcadia	Growth with General Plan Buildout	Solid Waste Disposal (pounds per day)	Solid Waste Disposal (tons per year)[a]
5.1 per resident	9,256 residents	47,206	8,615
11.6 per employee	8,559 employees	99,284	18,119
Total Estimated Increase in Solid Waste Disposal		**146,490**	**26,734**
[a] This figure calculated by multiplying the pounds per day of solid waste by 365 and then dividing by 2,000.			

As shown in Table 4.16-8, based on the 2008 disposal rates, evaluated maximum buildout of the General Plan Update would result in a net increase in solid waste disposal of approximately 146,490 pounds per day (approximately 73 tpd) and 26,734 tons per year. This is a conservative estimate because future disposal rates will likely be reduced from 2008 with implementation of further waste minimization efforts, as required by State law and proposed in the General Plan Update, as discussed below. Additionally, the actual waste volume from Arcadia that would be disposed into the landfill would be less than these estimates due to the City's use of the Commerce Refuse-to-Energy Facility for multi-family wastes.

To provide a conservative analysis, this EIR considers that all of the increased solid waste volume would be disposed of at the Puente Hills Landfill and Materials Recovery Facility (MRF). Landfills have a permitted daily throughput measured in tons per day, based on the total permitted capacity and anticipated life of the landfill. As discussed, the Puente Hills Landfill is permitted to accept 13,200 tpd and currently accepts approximately 9,330 tpd (CIWMB 2009). Therefore, the Puente Hills Landfill has a daily remaining capacity of approximately 3,850 tpd. The net daily increase in solid waste disposal with buildout of the General Plan Update of 73 tpd would represent approximately 1.9 percent of the Puente Hills Landfill's remaining daily permitted capacity. This incremental increase in solid waste disposal would not exceed the permitted daily capacity of the Puente Hills Landfill. Also, construction and demolition wastes would present temporary and incremental increases in disposal volume, which can also be accommodated by the remaining capacity of the Puente Hills Landfill and MRF.

To address landfill demand when capacity of the Puente Hills Landfill is reached, the LACSD has indicated that it is pursuing additional capacity through the use of a waste-by-rail system. The LACSD is currently designing and constructing facilities to begin operation of this system by 2011/2012, with the Puente Hills Intermodal Facility in the City of Industry to be used for the loading and unloading of rail-ready containers for the transport of the solid wastes to the LACSD's Mesquite Regional Landfill in Imperial County (LACSD 2009a). The Mesquite Regional Landfill is estimated to provide approximately 100 years of disposal capacity (LACSD 2007).

Regarding hazardous waste disposal, the proposed General Plan Update would result in minimal increases in the amount of industrial and/or commercial land uses, the primary sources

of hazardous wastes in a typical urban setting. Accordingly, there would be no more than a nominal increase in hazardous waste generation associated with implementation of the General Plan Update, and it is expected that this small increment could be accommodated at the existing Class I and II landfills that serve Los Angeles County.

Compliance with the City's solid waste reduction and recycling measures under SC 4.16-5 would reduce the demand for landfill capacity in compliance with local and State standards, and no significant impacts would result. The goals and policies in the Resource Sustainability Element and the Circulation and Infrastructure Element, as listed above, are intended to reduce waste generation from future development. In addition to applicable goals and policies set forth in the General Plan Update, Implementation Actions 4-12, Coordination with Utility Agencies and City Facilities; 6-3, Conservation Education and Promotion; 6-4, Green Building Initiatives; and 6-10, Waste Reduction and Recycling would also reduce waste generation from future development pursuant to the General Plan Update and from public and infrastructure projects in the City. Thus, no significant adverse impact on landfill capacity is expected, and no mitigation is required.

Regulatory Compliance

The City requires the provision of collection and loading areas for recyclables, in accordance with the Municipal Code, as well as curbside pickup service of household hazardous waste. In addition, Los Angeles County sponsors a Household Hazardous Waste program, which provides regular collection events where people can bring their hazardous waste for disposal. The Puente Hills Landfill and MRF does not accept hazardous wastes and performs load checks to prevent hazardous wastes from being disposed of at the landfill. However, its MRF has a free drop off for e-wastes.

CalRecycle estimates the State-wide diversion rate equivalent in 2008 was 59 percent (CalRecycle 2009). The City of Arcadia diverted approximately 64 percent of its solid wastes in 2006. This is consistent with the State mandate for waste diversion of at least 50 percent. Requirements for continued compliance with the SRRE and other solid waste reductions mandates (SC 4.16-6) will continue with implementation of the General Plan Update. In addition, Goal RS-6 in the Resource Sustainability Element and Goal CI-12 in the Circulation and Infrastructure Element of the General Plan Update calls for a higher level of waste reduction and recycling than 2009 accomplishments and waste management practices that provide efficient and cost-effective services and that emphasize waste reduction and recycling. Supporting policies and implementation actions would achieve these goals. Continuation of existing City and County programs and implementation of pertinent goals, policies, and implementation actions in the General Plan Update, as well as compliance with SC 4.16-6, would provide for the compliance by future developments with solid waste regulations. Therefore, there would be no impacts related to solid waste regulations, and no mitigation is required.

Electricity, Natural Gas, and Communications Infrastructure

Threshold 4.16h: Would the proposed 2010 General Plan Update require or result in the construction of new electric, natural gas or communication facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Threshold 4.16i: Encourage the wasteful or inefficient use of energy.

Electricity and Natural Gas Infrastructure

Future development pursuant to the General Plan Update and public and infrastructure projects in the City would generate a demand for electricity and natural gas, which would be provided by SCE and Sempra Utilities, respectively. Estimates of demand for electricity and natural gas demand related to the anticipated increase in development with buildout of the City under the General Plan Update are provided in Table 4.16-9. As shown below, implementation of the General Plan Update would result in an additional demand for an estimated 83.4 million kilowatt hours per year (kWh/yr) of electricity and 29.2 million cubic feet of natural gas.

Increases in demand for electricity and natural gas are expected to be met with increases in staffing, equipment, and infrastructure to provide the needed services, which could result in the construction of new facilities. The location or extent of such facilities is unknown at this time and dependent upon specific development project applications.

TABLE 4.16-9
ESTIMATED ELECTRICAL POWER AND NATURAL GAS DEMANDS

Land Use	Units or Size	Electrical Demand[a]	Natural Gas Demand[a]
Dwelling units in City	3,625 du	20.4 million kWh/yr	19.4 million cf/mo
Dwelling units in SOI	(238 du)	(1.3 million kWh/yr)	(1.3 million cf/mo)
Total	**3,387 du**	**19.1 million kWh/yr**	**18.1 million cf/mo**
Non-residential floor area in City	3,507,422	64.3 million kWh/yr	11.1 million cf/mo
Non-residential floor area in SOI	1,237	22,687 kWh/yr	3909 cf/mo
Total	**3 ,508,659**	**64.3 million kWh/yr**	**11.1 million cf/mo**
	Total	**83.4 million kWh/yr**	**29.2 million cf/mo**

du: dwelling unit; kWh: kilowatt hour; yr: year; cf: cubic feet; mo: month; SOI: sphere of influence

[a] Using demand factors from SCAQMD's CEQA Air Quality Handbook

Under SC 4.16-1, all new construction must comply with the City's Municipal Code, which adopts the California Building Code (CBC), California Plumbing Code, California Electrical Code, and California Mechanical Code as the building regulations of the City, subject to specific amendments. Compliance with SC 4.16-1 would allow for the construction of electrical and natural gas infrastructure according to set standards and would prevent the creation of significant environmental impacts.

In addition, SC 4.16-6 requires all future development projects to be in compliance with all State Energy Efficiency Standards and City Municipal Code requirements in effect at the time of application for building permits (Title 24). Title 24 regulates the use of energy-efficient building systems, including ventilation, insulation, and construction, and the use of energy saving appliances, air conditioning systems, water heating, and lighting. Plans submitted for building permits require compliance with energy standards and are subject to review and approval by the Planning Department prior to building permit issuance. Compliance with SC 4.16-1 and SC 4.16-6 would meet new demands for electricity or natural gas. Impacts would be less than significant, and no mitigation is required.

The goals and policies in the Resource Sustainability Element, as listed above, are intended to promote energy conservation in future development. Specifically, Goal RS-3 calls for the use of clean forms of transportation (i.e., energy-efficient vehicles) to reduce Arcadia's carbon footprint, with supporting policies for the use of clean, alternative fuel. Goal RS-5 calls for new

technologies for energy generation and new approaches to energy conservation. Numerous supporting policies would support State and local efforts to increase energy efficiency

In addition to the goals and policies set forth in the General Plan Update, Implementation Actions 4-12, Coordination with Utility Agencies and City Facilities; 6-1, Development Projects and Energy Performance Guidelines; 6-2, Energy Conservation Demonstration Projects; 6-3, Conservation Education and Promotion; 6-4, Green Building Initiatives; and 6-6, Solar Energy would reduce energy demand from future development pursuant to the General Plan Update and from public and infrastructure projects in the City.

Construction-related impacts associated with new electricity and natural gas infrastructure would be subject to project-specific environmental review pursuant to CEQA prior to implementation. Construction-related impacts from new development associated with the buildout of the General Plan Update is included in Sections 4.1 through 4.17 of this EIR, and specifically Section 4.3 (Air Quality), Section 4.11 (Noise), and Section 4.15 (Traffic and Transportation).

Communications Infrastructure

Future development pursuant to the General Plan Update and public projects in the City would generate a demand for telecommunication systems and services, which would be provided by AT&T or its competitors (for telephone services) and by Time Warner and Champion Broadband (for cable services). Because telecommunication services are provided by private companies on demand, increase in demand for services are expected to be met with increases in staffing and equipment to provide the needed services, which could result in the construction of new facilities. The location or extent of such facilities is unknown at this time and depend upon specific development project applications.

Under SC 4.16-1, all new construction must comply with the City's Municipal Code, which adopts the California Building Code, California Plumbing Code, California Electrical Code, and California Mechanical Code as the building regulations of the City, subject to specific amendments. Compliance with SC 4.16-1 would allow for the construction of communications infrastructure according to set standards and would prevent the creation of significant environmental impacts..

Construction-related impacts associated with new communications infrastructure would be subject to project-specific environmental review pursuant to CEQA prior to implementation. Construction-related impacts from new development associated with the buildout of the General Plan Update is included in Sections 4.1 through 4.17 of this EIR, and specifically Section 4.3 (Air Quality), Section 4.11 (Noise), and Section 4.15 (Traffic and Transportation).

4.16.8 CUMULATIVE IMPACTS

Growth and development within the San Gabriel Valley would generate increased demand for utility services from various service agencies. While increases in utility demands would occur on agencies that do not serve the City, future development pursuant to the proposed General Plan Update and public and infrastructure projects would not add to the service demands of these outside agencies. At the same time, cumulative impacts on regional utility providers would account for growth and development within the larger region, rather than just the San Gabriel Valley. Thus, the cumulative analysis for impacts on utility services considers the service area of the respective providers and adjacent service agencies, as they may be affected by services to be provided within the City and its SOI.

Water Supply and Infrastructure

Water services in the City are provided by the City, Sunny Slope Water Company, East Pasadena Water Company, the CAWC, the SGVWC, and the GSWC. Future development pursuant to the General Plan Update and public and infrastructure projects within the service areas of these companies would lead to an increase in demand for water services. Each water company is expected to provide service as projected in their individual UWMPs, which outline the agency's water supplies, projected 20-year demands, water supplies to meet demands, and programs to reduce water demands during periods of drought. Regular updates of these UWMPs would allow each water agency to effectively plan for future demand and supply availability.

Due to decreasing availability of imported water sources and in compliance with SBX7_7, it is anticipated that reductions in water use and greater use of recycled water and alternative sources would occur in the region. Since groundwater pumping in the project area is regulated by the Main San Gabriel Master Watermaster and the Raymond Basin Management Board, no significant adverse impacts on groundwater supplies are expected. This means that alternative water sources would be explored or aggressive water conservation measures implemented to meet future demands. Management of the local groundwater basins and compliance with water conservation measures is expected to prevent any significant cumulative adverse impacts related to water services.

Wastewater Treatment and Infrastructure

Cumulative impacts on sewer services would occur within the service area of the LACSD, which serves the City. Future growth and development in the region would generate additional sewage and wastewater that would require treatment at the WRPs of the LACSD. The LACSD has indicated that the design capacities of their treatment facilities are based on the regional growth forecasts of the Southern California Association of Governments (SCAG). Expansion of LACSD facilities must be sized and service phased consistent with the forecasts for the Counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. Thus, available capacity in the LACSD facilities will be limited to levels associated with growth identified by SCAG. The LACSD has indicated they will provide services to the levels legally permitted and constrained by the SCAG forecasts (LACSD 2009). Thus, future growth and development in the region, as anticipated by SCAG projections, can be served by the LACSD. Additionally, as discussed in Section 4.12, Population and Housing, the buildout of the General Plan Update would not conflict with SCAG growth projections. No significant cumulative adverse impacts on sewer services are expected.

Solid Waste

Solid waste collection services are provided on demand by private haulers, and cumulative impacts on their services from future development pursuant to the General Plan Update, public and infrastructure projects in the City, and growth and development within the San Gabriel Valley are not expected to result in adverse impacts on solid waste collection services. Available landfill capacity is expected to decrease over time with future growth and development in the San Gabriel Valley. Waste reduction and recycling programs and regulations are expected to reduce this demand and extend the life of existing landfills.

As discussed earlier, the LACSD has indicated that they are pursuing additional landfill capacity for the County through the use of a waste-by-rail system. This system is expected to begin operations by 2011/2012, with the Puente Hills Intermodal Facility in the City of Industry to be

used for loading and unloading of rail-ready containers for the transport of wastes to the Mesquite Regional Landfill in Imperial County (LACSD 2009a). The Mesquite Regional Landfill is estimated to provide approximately 100 years of disposal capacity (LACSD 2007). Thus, cumulative impacts on solid waste disposal facilities are expected to be less than significant.

Electricity, Natural Gas, and Communication Infrastructure

SCE, Sempra Utilities, AT&T, Time Warner, and Champion Broadband are private companies that provide services on demand. Thus, no significant cumulative adverse impacts on their services are expected. Service connections to existing facilities would need to be coordinated with individual utility agencies. Additionally, all projects are required to comply with State and local regulations related to energy conservation. The General Plan Update also contains goals and policies that promote energy conservation. Thus, no significant cumulative adverse impacts related to electrical power, natural gas, or telecommunications systems would occur.

4.16.9 MITIGATION MEASURES

MM 4.16-1: Prior to approval of development applications that could have an impact on existing water, sewer, or storm drain infrastructure capacities, as determined by the City Engineer, the project applicant/developer shall be required to determine project impacts on each system. If water, sewer, and/or storm drain infrastructure improvements are required in order to serve the proposed project, then appropriate mitigation shall be provided in the analysis and shall be incorporated into site development plans, subject to review and approval by the City Engineer. If infrastructure improvements outside the jurisdiction of the City of Arcadia are required, including improvements to trunk sewer lines owned by the Sanitation Districts of Los Angeles County, the needed improvements, or fair share payments in lieu of infrastructure improvements, shall be completed to the satisfaction of the appropriate jurisdictions.

4.16.10 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Water Supply and Wastewater and Infrastructure

Less Than Significant Impact With Mitigation

Wastewater Treatment Capacity

Less Than Significant Impact

Wastewater Treatment Requirements

Less Than Significant Impact

Solid Waste Disposal

Less Than Significant Impact

Electricity, Natural Gas and Communication Infrastructure

Less Than Significant Impact

Cumulative Impacts

Less Than Significant Impact