CHAPTER 3 Infrastructure and Utilities

This Chapter describes the existing conditions of the City of Beverly Hills's public infrastructure and utilities systems. This Chapter includes the following sections:

- Water System
- Sewer/Wastewater
- Storm Drains
- Solid Waste
- Electricity
- Natural Gas
- Telecommunications
- Circulation

3.1 WATER SYSTEM

This section discusses Beverly Hills's existing potable water system and provides information on the City's water conservation initiatives. Additionally, applicable local and regional policies are described. Information for this section was obtained from the City's Department of Public Works, General Plan Topic Committee Reports, the 2002 Water System Master Plan, 2000 Urban Water Management Plan, Beverly Hills Gardens & Montage Hotel EIR, the California Water Code and Beverly Hills Municipal Code.

Existing Conditions

Water Service Area

Beverly Hills supplies treated water purchased from the Metropolitan Water District (MWD) to approximately 9,400 Beverly Hills customers (households/businesses) in the City of Beverly Hills, a service area of approximately 3,642 acres and eleven pressure zones. The service area boundaries include the City limits on the west and north, San Vicente Boulevard on the east, and Whitworth Drive on the south.[5] Water is also supplied to an area in West Hollywood adjacent to Beverly Hills on the eastern boundary, however the following descriptions apply only to Beverly Hills.

Current land use in the service area is largely residential (about 90 percent). Other uses include commercial, light industrial and municipal. The service area is nearly fully developed. Additional growth will largely come from redevelopment and densification within the residential and commercial areas. The capacity of the City's water supply sources is adequate to meet projected ultimate demands for the City's service area, and the City does not anticipate an increase in water usage that will exceed the current supply.[6] Currently, however, as discussed below, the City's existing storage reservoirs do not provide sufficient emergency storage, although the City is taking measures to resolve this issue.

[5] City of Beverly Hills California, 2002. *Water System Master Plan.*

The total population for Beverly Hills, including 2025 forecasts prepared by the Southern California Association of Governments (SCAG), is presented in Table 3.1-1.

Table 3.1-1 Study Area Population

Year	Beverly Hills
1990	31,971
2000	33,824 [a]
2025	38,040

SOURCE: 2002 Water System Master Plan:
Year 1990: City of Beverly Hills and West Hollywood Demographics Website
Year 2000: Dept. of Finance (West Hollywood), Planning Dept. (City of Beverly Hills)
Year 2025: Southern California Association of Governments. 2004 RTP Forecast

[a] These population estimates, while they differ from those projected by SCAG, are the numbers upon which the Water System Master Plan is based. These numbers have been used in this section for consistency with the Master Plan.

As shown above, the SCAG population forecast for 2025 varies only slightly from the population for 2000. Table 3.1-2 provides 2025 population estimates for each of the 11 pressure zones in the service area. The population was estimated based on a density of about 2.5 people per household, except for Zones 3 and 4.

Table 3.1-2 Estimated Population and Households by Zone

Zone	Population	Households
3	14,500	7,000
4	12,300	6,000
5	1,250	500
6	3,500	1,500
7	25	10
8	1,125	450
9	75	30
11	325	130
13	400	160
15	450	200
16	50	20
Total	***34,000***	***16,000***

SOURCE: 2002 Water System Master Plan
The population was estimated based on a density of 2.5 people per household, except for Zones 3 and 4.

Historical Water Use

Total water use in the Beverly Hills service area is currently based upon the Beverly Hills Urban Water Management Plan (UWMP) prepared in 2000. Historically, the use percentages for the various source sectors do not vary significantly. Table 3.1-3 provides the City's historical water use.

[6] City of Beverly Hills, 2005. Written Communication from the Department of Public Works, 16 March.

The major decrease exhibited between 1995 and 1996 is attributed to the residual effects of mandatory conservation restraints imposed during the 1991/92 drought.[7]

Table 3.1-3 Historical Water Use (AFY)	
Year	Acre-feet
1960	14,071
1970	14,625
1980	13,322
1985	14,690
1990	14,469
1995	13,743
1996	13,347
1997	14,082
1998	13,024
1999	13,737
SOURCE: 2000 Urban Water Management Plan	

Residential water use averaged about 76 percent of total water sales in 1999. The total metered use was approximately 10.1 million gallons per day (mgd). Table 3.1-4 shows the 1999 metered sales by customer type, and Table 3.1-5 summarizes the 1999 customer metered sales by pressure zones. The use classes were summarized into two categories, residential and non-residential. An allowance for unaccounted-for use was then assigned equal to ten percent of the total use.

Table 3.1-4 1999 Metered Sales Summary by Customer Type	
Customer Type	Beverly Hills (mgd)
Commercial	1.982
Industrial	0.022
Municipal	0.294
Private/Fire	0.000
Residential-double	0.123
Residential-multi	1.823
Residential-single	5.723
Total	***10.061***
Percent Residential	76.2
SOURCE: 2002 Water System Master Plan	

Historical water use data in the WSMP reveals that over the last 22 years the average day (AD) water use has been stable, varying between 10.4 mgd and 13.7 mgd, with a mean value of 12.2 mgd. The City conducted a 24-hour pumping test on July 31, 2000,

[7] City of Beverly Hills, 2002. *Water System Master Plan.*

(midnight to midnight) to evaluate typical peak demands. The peak day and peak hour demands and peaking factors by pressure zones are summarized in Table 3.1-6.

Table 3.1-5 1999 Metered Sales Allocation

Pressure Zone	Residential (mgd)	Non-Residential (mgd)	Unaccounted-for (mgd)	Total (mgd)
3	1.921	0.641	0.285	2.848
4	2.247	1.529	0.420	4.196
5	0.447	0.014	0.051	0.512
6	1.655	0.176	0.203	2.035
8	0.688	0.046	0.082	0.816
9	0.048	0.000	0.005	0.053
11	0.165	0.000	0.018	0.184
13	0.149	0.000	0.017	0.166
15	0.334	0.000	0.037	0.371
16	0.024	0.000	0.003	0.027
Total	***7.678***	***2.406***	***1.121***	***11.208***

SOURCE: 2002 Water System Master Plan

According to the UWMP, total water use in the City's service area is not expected to increase significantly over the next fifteen years. There could be an increase if housing density increases substantially or a significant increase in household income occurs.[8]

Table 3.1-6 July 31, 2000–Observed Demands by Zone

Pressure Zone	Allocated Sales and Unaccounted (mgd)	Observed 7/31/00 Daily Total (mgd)	Observed 7/31/00 Demand 8-9 am (mgd)	Observed Peak Day to AD Ration	Observed Peak Hour to Peak Day Ratio	Observed Peak Hour to AD Ratio
3	2.848	3.37	5.89	1.18	1.75	2.07
4	4.196	4.91	7.54	1.17	1.54	1.8
5	0.512	0.76	1.09	1.48	1.43	2.13
6	2.035	2.93	4.63	1.44	1.58	2.28
8 & 9	0.869	1.53	2.23	1.76	1.46	2.57
11	0.184	0.23	0.39	1.25	1.7	2.12
13	0.166	0.28	0.51	1.69	1.82	3.07
15 & 16	0.398	0.53	1.24	1.33	2.34	3.11
Total	***11.208***	***14.54***	***23.52***	***11.3***	***13.62***	***19.15***

SOURCE: 2000 Urban Water Master Plan

Existing Infrastructure

Beverly Hills imports approximately 90 percent of its water from the Metropolitan Water District of Southern California (MWD) and approximately 10 percent is currently

[8] City of Beverly Hills, 2000. *Urban Water Management Plan.*

provided from local groundwater production wells.[9] The City does not have legally adjudicated rights, but rather has rights of appropriation based upon historical groundwater extractions and actions to recharge the groundwater. Currently, the City (residents, businesses and public facilities) consumes 65 percent of the water for irrigation and, on average, only two percent of residential water is used for drinking.[10] As discussed in Section 3.4 (Solid Waste) of this Technical Background Report, nearly 40 percent of the City's solid waste is green landscape material, suggesting that landscapes are being over-watered to yield too much growth. By reducing the amount of water used for irrigation purposes, not only will the City reduce waste to the landfills, but also reduce their reliance on water imported from MWD.

The MWD imports its water from the California State Water Project and the Colorado River. The City receives its water on a continuous basis at its two interconnections designated as Beverly Hills one (BH-1) and Beverly Hills two (BH-2) each with a maximum capacity of 40 cubic feet per second (cfs) or 24,948 acre feet/year (afy). The interconnections are located in the valve structure in a major reservoir.[11] MWD connections are the primary source of water supply to the City and its major reservoirs, including Sunset, Coldwater, and Greystone. The City is required to take a minimum combined daily flow of 8 cfs from the BH-1 and BH-2 service connections.[12]

The City recently opened a reverse osmosis water treatment plant (WTP) in April 2004. The WTP is being subsidized by the MWD as part of the Groundwater Recovery Program (GRP) to enable member agencies to develop local groundwater supplies to reduce the demand on the SWP and the Colorado River.[13] The WTP has a 2.7 million gallon per day (MGD) capacity, and may be expanded to 5.4 MGD at a future date, if economically feasible. The groundwater is processed, treated, and subsequently blended with water purchased from MWD and conveyed to the distribution system via a transmission main that connects it to the Sunset Reservoir.[14] All water used in the City is treated to potable standards.[15]

The City has four groundwater wells, three in the Beverly Gardens Park and one in the Burton Way median. The groundwater is conveyed to the treatment plant through a transmission main owned and maintained by the City.

There are currently ten reservoirs within the Beverly Hills water system, ranging in size from 1.0 million gallons (MG) to 19.4 MG, for a total volume of 40.2 MG. Five reservoirs are above ground, circular steel tanks, and the others are either buried or partially buried concrete reservoirs. Table 3.1-7 lists the nine reservoirs currently in

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[9] Garruba, Marcel, 2005. Personal communication with Utilities Services Manager, Water Supply and Distribution Division, 16 May.
[10] City of Beverly Hills, 2003. *Vision 2025 Environmental Sustainability Final Report.* August.
[11] City of Beverly Hills, 2002. *Water System Master Plan.*
[12] City of Beverly Hills, 2002. *Water System Master Plan.*
[13] City of Beverly Hills Department of Public Works, 2005. Website: www.beverlyhills.org, April.
[14] RBF Consulting, 2003. Beverly Hills Gardens and Montage Hotel EIR, 14 November.
[15] City of Beverly Hills, 2001-2004. General Plan Topic Committee Reports.

service and their respective capacities. Greystone Reservoir with a capacity of 19.4 MG is the largest storage facility in the distribution system.[16]

The City's storage facilities serve multiple purposes, including flow equalization, fire reserve, and emergency supply. Without storage facilities, the MWD supply facilities and Beverly Hills pumping and transmission facilities would need to deliver instantaneous peak demands (maximum hour). The availability of sufficient water storage reduces the maximum demand on the supply, pumping and transmission facilities to the maximum day rate.[17]

According to City policy and a study performed for the 2002 WSMP, the City falls short by 1.2 MG, of meeting its estimated emergency storage needs of 104 percent of maximum day (MD) demand. Locating and permitting additional water facilities is difficult in Beverly Hills. Coldwater Canyon Reservoir is currently planned for replacement, and its volume will be increased 8.25 MG. As part of that project, a 1.8 MG supplemental reservoir was built near Booster Station No. 2 before the planned demolition of the existing Coldwater Canyon Reservoir. This project would provide 3.6 MG additional emergency storage, for a total of 114 percent of MD.[18]

Table 3.1-7 Reservoir Capacities

Reservoir	Depth Ft	Actual Volume MG	Nominal Volume MG
7	31.0	1.217	1.2
6	31.0	1.019	1.0
5	31.0	1.019	1.0
4A	22.0	2.202	2.2
4B	31.0	1.019	1.0
3A	28.5	1.062	1.1
Coldwater	14.0	7.264	7.3
Sunset	21.1	5.984	6.0
Greystone (West Side)	43.1	10.204	10.2
Greystone (East Side)	43.1	9.198	9.2

SOURCE: WSMP 2002

The City maintains nine active pumping stations, with a total of thirty-three pumps, in the Beverly Hills water system,[19] ranging in capacity from 120 gallon per minute (gpm) to 2,750 gpm. The pump stations deliver about 12,000 to 13,000 afy per year to its customers. The system has adequate pressure throughout to provide service for normal customer usage, emergency supplies and fire protection.[20]

[16] City of Beverly Hills, 2002. *Water System Master Plan.*
[17] City of Beverly Hills, 2002. *Water System Master Plan.*
[18] City of Beverly Hills, 2002. *Water System Master Plan.*
[19] Epstein, Shana, 2005. Personal communication with Water Supply and Distribution Division, Public Works Department, 16 May.
[20] City of Beverly Hills, 2005. Written communication from the Department of Public Works, 16 March.

The City's water distribution system is gravity based and is made up of eleven pressure zones that are established to provide acceptable pressures across the system. Table 3.1-8 lists the pressure zones, maximum hydraulic gradients established by the reservoirs serving these zones, and range of ground water elevations served.

Table 3.1-8 Pressure Zones

Pressure Zone	Reservoir Serving Zone	Maximum HGE [a] Elevation (ft)	Ground Elevation	
			Maximum (ft)	Minimum (ft)
16	7 (via PS No. 8) [b]	1610	1470	1360
15	7	1502	1350	1080
13	6	1293	1120	850
11	5	1052	920	640
9	3A (vía Monte Cielo PS)	1050	940	680
8	4A, 4B	800	720	440
7	Greystone (via Green Acres PS)	711	550	445
6	3A/Greystone	628	480	260
5	PRV via Greystone [c]	499	420	240
4	Coldwater	454	330	205
3	Sunset	384	260	150

SOURCE: WSMP 2002

[a] Hydraulic Gradient Elevation

[b] Pump Station

[c] Pressure Reducing Valves

Also operating within the City's distribution system are nine pressure reducing stations and five pressure relief stations. The pressure reducing valves (PRVs) deliver water at a regulated pressure from the upper to the lower pressure zones. The pressure relief valves open only when necessary to prevent excessive pressure in the upper pressure zones. PRVs are also used for pump protection in Booster Stations 4B, 5, 6, 8, and at the Greystone Booster Station. Additional pressure relief stations, which would discharge to the atmosphere if operated, are located at four locations, one of which is located in West Hollywood).[21]

The distribution system has a complex network of transmission and distribution pipelines up to 24 inches in diameter. Most of the mains consist of lined and unlined steel, cast iron, and ductile iron pipe and a network of distribution pipelines.[22] Management of the water distribution system is accomplished through a computerized Supervisory Control and Data Acquisition (SCADA) system. This allows monitoring, control and operation of the entire system.[23]

All delivered water is metered and readings are the basis for bimonthly billings and water consumption records. Water is supplied for residential, municipal, and commercial usage,

[21] City of Beverly Hills, 2002. *Water System Master Plan.*
[22] City of Beverly Hills, 2002. *Water System Master Plan.*
[23] City of Beverly Hills, 2005. Written communication from the Department of Public Works, 16 March.

including a small number of industrial facilities.[24] The City currently serves its customers through approximately 10,600 metered connections.

Interconnections

The City of Beverly Hills also has two emergency water service connections to the Los Angeles Department of Water and Power (LADWP) water system. These connections are located near Booster Station No. 2 and adjacent to Reservoir No. 7. The maximum flow allowable from LADWP near Booster Station No. 2 is 21 cfs (13.5 mgd), which may be conveyed to Zone 4 by pressure reducing valves or to Zone 6 by pumping from Booster Station No. 2. The design capacity from the LADWP connection adjacent to Reservoir No. 7 is 3.4 cfs (2.2 mgd).

Future Needs

The City's WSMP analyzed two critical demand conditions in the water distribution system:

- Maximum day, which determines the ability of the system to maintain full storage facilities during maximum day (MD) demands
- Maximum hour, which determines the ability of the system to maintain adequate residual pressure during periods of peak demand

The analysis results in identified deficiencies in the existing system, evaluated capability to meet projected water demands through the year 2025, and evaluated operational or improvement alternatives.

The evaluation concluded that, in addition to current plans for the replacement of Coldwater Canyon Reservoir and the construction of a new supplemental reservoir (discussed above), additional emergency water storage may be required in the future if the criteria change for MWD outages or LADWP emergency supply rates, or if an existing reservoir is removed from service. Space is available for additional storage for a future Reservoir 4-C at the Reservoir 4B site. This could provide an additional 1.0 MG storage and a total of 118 percent of MD volume for emergency storage.[25]

The WSMP provides a comprehensive list of priority improvements needed for the major observable water system facilities. These improvements will provide the required capacity and reliability to meet projected water demands through the year 2025. The water system facilities are in need of continual repair or replacement. The City has a comprehensive Capital Improvement Program to repair and replace water system infrastructure and storage facilities. The cost of these repairs and/or upgrades is projected to total $35–40 million over the next ten to fifteen years.

In various locations in the City, water lines, fire service lines, and fire hydrants are located in such a way that a failure of water service to an individual hydrant needed to respond to

[24] City of Beverly Hills, 2005. Written communication from the Department of Public Works, 16 March.
[25] City of Beverly Hills, 2002. *Water System Master Plan.*

a fire would result in the need for much longer lengths of hose being laid to reach the next nearest hydrant, thereby increasing response time to fires. New water service lines that would permit additional hydrants will require a substantial capital investment. The 2002 WSMP recommended that the existing mains in the alleys with the service connections should be maintained in service while additional fire protection mains are put in the street rights-of-way. The fire protection mains will require a total of 42,000 feet of 8-inch and 12-inch mains, for a total capital cost of $7,833,000.

The WSMP recommended pipeline replacement and rehabilitation projects based on the City's main break experience. The City experienced 207 main breaks between late 1989 and 2000, or an average rate of 0.133 breaks per mile per year. This rate is low in comparison with a national average rate of 0.25. The WSMP analysis determined, therefore, that pipe replacement should focus on pipes that have experienced two or more breaks.

Recycled Water

The City of Beverly Hills is a completely developed municipality. There is insufficient room for settling ponds and the City has no reclamation facilities or recycling plants. The closest tertiary treatment plant is in El Segundo and is owned and operated by Central/West Basin Municipal Water District. The West Basin is 10 miles from the City of Beverly Hills and there are no transmission lines from the basin to Beverly Hills. The cost to install such lines and a duel piping system in the City is cost prohibitive, as determined by Municipal Water Supply Study—Boyle Engineering 1992.[26]

According to the 2000 Urban Water Management Plan, it does not appear that recycled wastewater will be available to the City in the near future. The City does, however, maintain water conservation programs including public education programs, various maintenance programs and infrastructure improvements. Also, a Water Conservation Ordinance, Efficient Landscaping Ordinance and Stormwater Ordinance have been put into place to assist with the City's water conservation efforts.

Regulatory Setting

Federal

The federal *Clean Water Act* (CWA) establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. The City of Beverly Hills is required to monitor water quality and conform to the regulatory requirements of the CWA.

The federal *Safe Drinking Water Act* (SDWA) establishes standards for contaminants in drinking water supplies. Maximum contaminant levels and treatment techniques are established for each of the contaminants. The listed contaminants include metals, nitrates,

[26] City of Beverly Hills, 2000. *Urban Water Management Plan.*

asbestos, total dissolved solids, and microbes. These standards are discussed further in Section 5.2 (Hydrology and Water Quality).

State

Safe Drinking Water Act (1976)

California enacted its own *Safe Drinking Water Act*. The California Department of Health Services (DHS) has been granted primary enforcement responsibility for the SDWA. Title 22 of the California Administrative Code establishes DHS authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than federal standards.

The *Urban Water Management Planning Act* (UWMPA) was also developed due to concerns for potential water supply shortages throughout the state of California. It requires information on water supply reliability and water use efficiency measures. Urban water suppliers are required, as part of the Act, to develop and implement plans to describe their efforts to promote efficient use and management of water resources.[27]

Recycled Water Regulations

Within the State of California, recycled water is regulated by the U.S. Environmental Protection Agency (EPA), the State Water Resources Control Board, Regional Water Quality Control Boards, DHS, and the Los Angeles County Department of Public Works. The State Water Resources Control Board has adopted Resolution No. 77-1, Policy with Respect to Water Reclamation in California. This policy states that the State Board and Regional Boards will encourage and consider or recommend for funding water reclamation projects that do not impair water rights or beneficial instream uses. The DHS establishes the recycled water uses allowed in the State and designates the level of treatment (i.e., undisinfected secondary, disinfected secondary, or disinfected tertiary) required for each of these designated uses (Title 22, California Code of Regulations).

The Regional Water Quality Control Boards implement the State Board's Guidelines for Regulation of Water Reclamation and issue waste discharge permits that serve to regulate the quality of recycled water based on stringent water quality requirements. The State Department of Health Services develops policies protecting human health and comments and advises on Regional Water Quality Control Board permits (RCIP Existing Setting Report and Resolution No. 77-1, Policy with Respect to Water Reclamation in California).

Local Regulations

Section 6-1.2 of the Beverly Hills Municipal Code establishes regulations for the administration of water services in the City. In compliance with Government Code

[27] Urban Water Management Planning Act (California Water Code, Division 6, Part 2.6, Section 10610 et seq.)

Section 10631, parts (c) and (d), the City has also provided alternative water conservation measures. The City maintains as a long-term goal a Water Conservation Program, Water Conservation Ordinance, and Efficient Landscaping Ordinance to achieve and maintain a high level of efficiency in water uses in the Beverly Hills service area. Specific programs include: leak reporting and repairs, valve maintenance program, system operation monitoring, meter replacement program, leak detection program, rate structure rate management, flagging of unusual meter reads, test and repair program (pressure regulating valves), landscape irrigation, and public information program.[28]

Issues

- By reducing the amount of water used for private and municipal irrigation, the City will help reduce reliance on water imported from MWD.
- Locating and permitting additional water facilities is difficult in Beverly Hills. Additional emergency water storage may be required in the future if the criteria change for MWD outages or LADWP emergency supply rates, or if an existing reservoir is removed from service.
- In various locations in the City, water lines, fire service lines, and fire hydrants are located in such a way that a failure of water service to an individual hydrant needed to respond to a fire would result in the need for much longer lengths of hose being laid to reach the next nearest hydrant, thereby increasing response time to fires. New water service lines that would permit additional hydrants will require a substantial capital investment.

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RBF Consulting. 2003. *Beverly Hills Gardens and Montage Hotel EIR*, 14 November.

[28] City of Beverly Hills, 2000. *Urban Water Management Plan*.

3.2 SEWER/WASTEWATER

This section describes the City of Beverly Hills' existing wastewater system. Information for this section was obtained from the City's Public Works Department, the Beverly Hills Gardens & Montage EIR, the Beverly Hills Urban Water Management Plan, the Wastewater Treatment Regime website, the Beverly Hills Municipal Code, and the Los Angeles City Public Works Department, Bureau of Sanitation.

Existing Conditions

The City's Department of Public Works maintains sewer collection and distribution systems located throughout the City. The existing sanitary sewer system consists of over 95 miles of sewer mains that connect to the City of Los Angeles' sewer facilities at the southeastern border of the City. Figure 3.2-1 identifies the existing sanitary infrastructure system for both Beverly Hills and the City of Los Angeles.

Over 65 percent of the existing system consists of 8-inch diameter pipe and over 50 percent of the system is more than 50 years old.[29] The City has a rehabilitation program to repair, reline, and/or replace the existing waste water infrastructure. This program allows the City to avoid costly replacements of damaged sections. The proposed budget is ten million over the next ten years.

The City of Beverly Hills's sewer system currently serves a resident population of approximately 35,700 people and a daytime population of approximately 294,000 people in a service area comprised of a mixture of land uses including residential, commercial, industrial, and institutional. In addition to this daytime population noted above, an estimated 44,700 people are in transit through the City during A.M. peak hours, and approximately 46,000 during P.M. peak hours.

Collection System

All of the wastewater flows generated from the City (not including stormwater) are collected and treated at the Los Angeles Hyperion Wastewater Treatment Plant (HTP), located on the coast at 12000 Vista Del Mar in the City of El Segundo. HTP treats wastewater from the cities of Beverly Hills, Burbank, much of the City of Los Angeles, Culver City, El Segundo, Glendale, San Fernando, Santa Monica, and portions of Los Angeles County. Currently, HTP is the largest of four wastewater treatment plants in the area surrounding the City of Los Angeles.[30] The plant has a dry weather capacity of 450 MGD for full secondary treatment and an 850 MGD wet weather capacity. Current flow is 340 MGD.[31]

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[29] City of Beverly Hills, 2005. Written communication from the Department of Public Works, 16 March.
[30] RBF Consulting, 2003. Beverly Hills Gardens and Montage Hotel EIR, 14 November.
[31] City of Los Angeles Bureau of Sanitation, 2005. Website: www.lastormwater.org, May.

The City's system allows pass-through for flow generated in the portion of the City of Los Angeles north of Beverly Hills. Permanent flow monitors are placed at one inflow point and three outfall points to measure the amount of flow from Los Angeles that enter the City and the flows leaving Beverly Hills, to determine the volume of wastewater generated within the limits of Beverly Hills.[32] The three outfall point locations including the size and type of their main trunk lines in Beverly Hills include the following: Gregory Way, a 30-inch vitrified clay pipe (VCP) or fired pipe; Whitworth Drive, a ten-inch concrete pipe; and La Cienega Boulevard, a 33-inch VCP. Additional un-metered flow enters the City and the quantity is calculated using standard flow generation assumptions. The maximum recorded daily flow generated by the City is about 12 million gallons per day and the average flow is about six 6 million gallons per day.[33]

Treatment System

The wastewater arrives at the Hyperion Wastewater Treatment Plant (HTP) from an extensive system of sewers and passes through bar screens before entering the sedimentation tanks. The primary treatment is simple, utilizing a series of underground tanks with a retention time of around one hour. The flow is dosed with chemical coagulants to improve the efficiency of the settling process and oil and grease skimmed from the surface. The settled primary sludge is pumped to anaerobic digesters, while the flow is pumped to the secondary treatment phase.[34]

Primary effluent is distributed to a series of aeration basins. After the activated sludge process, the flow enters secondary clarifying tanks where settling of the biomass occurs. The majority of the settled solids are returned to aeration basins while the excess waste activated sludge (WAS) is collected, thickened, and pumped to digesters.[35]

Around six percent of the secondary effluent is reclaimed for use as cooling water or chemical dilution in the treatment process or for irrigation purposes, the remainder being discharged to the ocean, five miles offshore at a depth of 190 feet. The excess primary and secondary sludges are thickened by means of twelve continuous feed, horizontal solid bowl centrifuges, each with a peak hydraulic loading of $227m^3/h$, before entering anaerobic digesters.[36]

The methane-rich biogas produced during decomposition is collected and piped to a nearby power plant, which partially offsets the HTP's energy purchase costs. The final sludge produced at the plant is dewatered by centrifuge and consigned for beneficial land application.[37]

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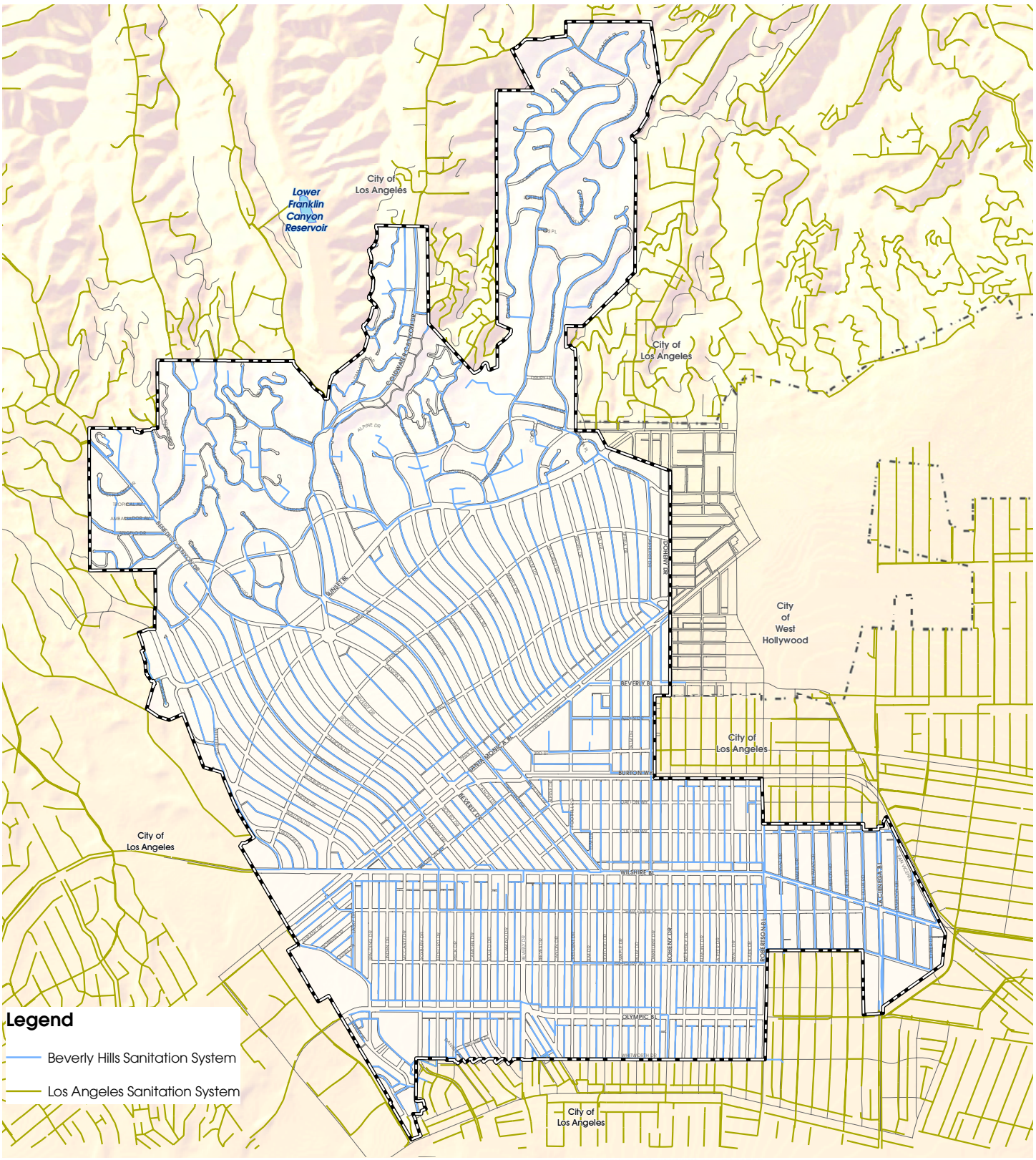
[32] City of Beverly Hills, 2000. *Urban Water Management Plan*.
[33] City of Beverly Hills, 2005. Written communication from the Department of Public Works, 16 March.
[34] Wastewater Treatment Regime, 2005. Website: www.water-technology.net/projects.hyperion, April.
[35] Wastewater Treatment Regime, 2005. Website: www.water-technology.net/projects.hyperion, April.
[36] Wastewater Treatment Regime, 2005. Website: www.water-technology.net/projects.hyperion, April.
[37] Wastewater Treatment Regime, 2005. Website: www.water-technology.net/projects.hyperion, April.

EXISTING SANITARY INFRASTRUCTURE



Source: City of Beverly Hills, February 2005

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EIP ASSOCIATES

0 900 1,800 3,600 Feet

Figure 3.2-1

Regulatory Setting

Federal and State

The federal *Clean Water Act* and regulations set forth by the California Department of Health Services and State Water Resources Control Board are aimed primarily at discharges of effluent to surface waters and are addressed in Chapter 8.2 Hydrology and Water Quality. Title 40 of the Code of Federal Regulations (CFR) Part 503, Title 23 California Code of Regulations, and standards established by the Los Angeles RWQCB regulate the disposal of biosolids.

Regional

Under the Los Angeles RWQCB National Pollution Discharge Elimination System (NPDES), all existing and future municipal and industrial discharges to surface waters within the City of Beverly Hills are subject to regulations. NPDES permits are required for operators of municipal separate storm sewer systems (MS4s), construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

Proposed federal EPA's Capacity, Management, Operations and Maintenance Regulations are proposed to be adopted by the RWQCB, affecting Beverly Hills' capacity, management, operations and maintenance of wastewater facilities. Future waste discharge requirements will have greater emphasis on the control of fats, oils, and grease (FOG) in the City's waste discharge. The Los Angeles RWQCB may require the City to complete a sewer system management plan which will address emergency spill response, preventative maintenance program, establish legal authority, and FOG mitigation measures.

Local

Title 6 of the Beverly Hills Municipal Code regulates the construction and operation of wastewater systems and the discharge of wastewater into the City of Beverly Hills wastewater system, to provide a fair and equitable method of imposing wastewater charges, and to facilitate enactment of regulations for the wastewater system that are mandated by the environmental protection agency and the state of California.

Issues

- A Wastewater Management Plan is needed to identify the extent of any system deficiencies, identify users, and support long-term capital planning.
- As over half of the City's sewer system is more than fifty years old, the City will likely face regular deficiencies in the system as time progresses.
- The Los Angeles RWQCB may require the City to complete a sewer system management plan to address emergency spill response, preventative maintenance program, establish legal authority, and FOG mitigation measures.

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