V. ENVIRONMENTAL IMPACT ANALYSIS
H. UTILITIES
2. WATER CONSERVATION

ENVIRONMENTAL SETTING

Water service is provided to both the Project Site and the surrounding locale by the City of Los Angeles Department of Water and Power (DWP). Existing water lines serving the Project Site include a 16-inch main under Figueroa Street, a 12-inch main under Martin Luther King Jr. Boulevard, and a four-inch main under Menlo Avenue. Additional nearby lines include a 61-inch main under the Figueroa Street easement and an eight-inch main under Menlo Avenue.

The Coliseum is serviced by DWP water mains via two main feeder (lateral) lines which merge inside the stadium. These feeder lines enter the Coliseum along the north and south exteriors of the structure. The Coliseum's internal water delivery infrastructure has been upgraded and, in parts, replaced at various intervals throughout the stadium's nearly 80 year history. The most recent major overhaul occurred in 1973 when many of the deteriorating internal lines required upgrading and, in some cases, complete replacement. During the 1984 Olympic Games, water pressure and leakage problems were experienced in the yard and concourse levels of the Coliseum. In response, a new pump station was installed and some water lines were replaced and upgraded. In the years since these improvements were made, water system leakages and/or pressure problems have continued to occur within the Coliseum, due primarily to the age of the stadium's interior infrastructure. Low-flow showerheads and toilet flush valve water conservation devices were installed throughout the Coliseum during and following the 1984 Olympic Games. Trough-type urinals, which generally use a greater quantity of water than individual urinals and/or toilets, are currently installed in several of the restroom facilities in the Coliseum. The Coliseum's grass field is irrigated by sprinkler heads percolating through a gravity drain system. The water used for field irrigation drains into a sump located under the west end of the field, from which it is ejected to the storm drain system.

In terms of the City's overall water supply, in addition to local groundwater sources, the DWP operates and receives water via the Los Angeles-Owens River aqueduct and is a member of the Metropolitan Water District of Southern California (MWD). According to DWP projections, these three sources will supply the City's water needs beyond the year 2020. According to recent projections, the City's water demand for 2020 is estimated at 900 cubic feet per second (cfs). The City of Los Angeles Department of Water and Power (DWP) is responsible for ensuring that water demand within the City is met and that State and federal water quality standards are achieved. For the fiscal year of 2001-2002, City water supplies were derived from the following sources: (1) the Los Angeles Aqueduct, approximately 34 percent; (2) groundwater, approximately 11 percent; and (3) purchases from the Metropolitan Water

District (MWD), approximately 55 percent.[1] Although, the amount of water obtained from these sources varies from year to year and is primarily dependent on weather conditions and demand.

Water storage is essential for the DWP to supply water during high demand conditions and provide for firefighting and emergencies. The City water system includes 104 tanks and reservoirs ranging in size from 10,000 to 60 billion gallons with a total capacity of 109 billion gallons.[2] Water is currently being consumed on the Project Site for a variety of event-related uses, primarily field irrigation, landscaping, public restrooms, locker rooms, concession uses, concourse washdowns, and public drinking fountains. In addition to these uses, the daily operation of the Coliseum Commission staff offices and ticket offices consumes a smaller amount of water. Water consumption on-site is reduced during periods when no stadium events are being held, with landscaping and field irrigation being the primary uses.

The Coliseum has hosted an average of 34 events per year over the past three calendar years (1999 through 2002) with a total average annual attendance of 259,087 persons, or 32,386 per event.[3] Full spectator capacity at the Coliseum (92,500 persons) was not reached on any occasion during the aforementioned three-year study period, and has only been reached on infrequent occasions throughout the history of the stadium. For a more detailed discussion of the parameters of time period and attendance data utilized in this study, see Section IV.A of this report, Analytical Assumptions. As shown in Table V.H.2-1, an average of approximately 444,000 gallons of water are consumed per event on the Project Site by the existing Coliseum and its related facilities, an average of approximately 15 million gallons per year.[4]

Table V.H.2-1

Existing Water Consumption

Development	Size (seats)	Consumption Rate [a] (gallons/day/seat)[b]	Total Consumption (gallons/day)
Coliseum Seats	92,500	4.8	444,000
Total Existing Water Consumption per Event			**444,000**
Total Existing Water Consumption per Year			**15,096,000**

[a] *Water consumption rate is 120% of wastewater generation rate provided by the City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

[b] *Gallons per day are for event days only.*

[1] *City of Los Angeles Department of Water and Power, Urban Water Management Plan, Fiscal Year 2001-2002 Annual Update.*

[2] *City of Los Angeles, Draft L.A. CEQA Thresholds Guide, May 1998.*

[3] *These 34 average annual events do not include non-ticketed events. Source: Los Angeles Coliseum Commission, July 2003.*

[4] *Based on a 34-event year.*

ENVIRONMENTAL IMPACTS

Thresholds of Significance

Implementation of a project would result in a significant impact on water service if either of the following occurs: 1) demand by the project exceeds the ability of the DWP to service the area based on anticipated water supplies; or 2) water demand generated by the project exceeds the capacity of existing or planned water distribution systems, resulting in an unmet need for additional infrastructure in order to provide adequate levels of service.

Project Impacts

Project implementation would consist of the renovation of the Los Angeles Memorial Coliseum, reducing its maximum seating capacity from the current level of 92,500 persons to levels of 78,000 persons. Renovation would include the reconfiguration of the Coliseum's seating to provide for the addition of approximately 200 private suites. Additionally, expanded locker rooms, and new offices and press/media facilities would be developed as part of the Project. The Proposed Project would remove all of the existing outbuildings surrounding the Coliseum structure and would include the construction of two new ancillary buildings, each 20,000 square feet, to be used for office or retail structures. Both ancillary uses would be operable on a day-to-day basis throughout the year. For a more detailed discussion of Project uses, building locations, and designs for the renovated Coliseum, see Section III.C, Project Characteristics.

While reducing the maximum attendance capacity for all events, the Proposed Project would increase the total number of water consumptive facilities located on-site through the renovation of existing restroom and concession facilities with a greater number of new facilities, the expansion of the existing home and visiting team locker rooms, the construction of the new food service/maintenance areas, the development of separate club level concession counters and lounges, the construction of approximately 200 private suites with wet bar and bathroom facilities, and more expansive press box facilities.

It is been assumed that all the water delivery infrastructure and fixtures used within the renovated Coliseum would exhibit an increase in efficiency when compared to the existing facilities, requiring the use of less water to perform the same function. The new system would eliminate existing leakages and pressure problems associated with the existing infrastructure, and would conform to current standards not in place at the time of the Coliseum's original construction or subsequent upgrades.

As shown in Tables V.H.2-2 and V.H.2-3, water consumption on the site is estimated to be approximately 468,000 gallons per event with the development of the Proposed Project, assuming maximum levels of attendance at all events, and 7,200 gallons of water per day on non-event days. This results in a total of approximately 24 million gallons of water consumed by the Project per year, based on a rate of 46 events per year and daily use of the ancillary structures. This is a per-event increase in water consumption of 24,000 gallons per event, and a non-event day increase of 7,200 gallons of water per day. It should be noted that the maximum possible water consumption for any Coliseum event could be reduced below projected levels upon implementation of the Proposed Project through the installation of

more water-efficient infrastructure and fixtures, as described above. Additionally, because events are not anticipated to achieve maximum capacity frequently, it can be assumed that water consumption will be below the projected rates for most events.[5]

Table V.H.2-2

Proposed Project Water Consumption on Event Days

Development	Size	Consumption Rate [a, b]	Total Consumption (gallons/day)
Coliseum Seats	78,000 seats	4.8 (gallons/seat/day)	374,400
Luxury Suites [c]	4,000 seats	21.6 (gallons/seat/day)	86,400
Ancillary Office/Retail	40,000 sf	180 (gallons/1,000 sf/day)	7,200
Proposed Project Water Consumption per Event			**468,000**
Less Existing Water Consumption			**444,000**
Total Project Net Increase			**24,000**
Proposed Project Water Consumption per Year			**21,528,000**

[a] *Water consumption rate is 120% of wastewater generation rate provided by the City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

[b] *Gallons per day are for event days only.*

[c] *The Proposed Project includes 200 suites for a total of approximately 4,000 seats.*

Table V.H.2-3

Proposed Project Water Consumption on Non-Event Days

Development	Size	Consumption Rate [a]	Total Consumption (gallons/day)
Ancillary Office/Retail	40,000 sf	180 (gallons/1,000 sf/day)	7,200
Proposed Project Water Consumption on Non-Event Days			**7,200**
Proposed Project Water Consumption per Year			**2,628,000**

[a] *Water consumption rate is 120% of wastewater generation rate provided by the City of Los Angeles Department of Public Works, Bureau of Sanitation, July 29, 2003.*

Water service for the Coliseum would continue to be provided by the City of Los Angeles Department of Water and Power from the existing 16-inch main under Figueroa Street, 12-inch main under Martin Luther King Jr. Boulevard, and four-inch main under Menlo Avenue. As discussed in Section V.G.1 of this report, Fire Protection, the Proposed Project is estimated to continue to require a fire-flow of approximately 9,000 gallons per minute from six fire hydrants flowing simultaneously, the same as the existing Coliseum.

[5] *With development of the proposed project, concerts and/or special public speaking events would be the only types of events at which the maximum current capacity could feasibly be retained. The maximum potential capacity of the Coliseum would be reduced for all other types of events.*

It has not been determined at this time whether adequate capacity to meet the site's anticipated future water demand currently exists in the water mains serving the site. The Project Site's peak flow water demand would be anticipated to increase with Project implementation corresponding to increases in water consumptive fixtures and a higher number of events per year. As such, impacts to water services are may be adverse and significant.

At this time, the adequacy of existing water infrastructure to serve the Project Site has not been determined. If, upon formal assessment, water capacity and service is determined to be inadequate, and the local water delivery system requires upgrading, the resulting construction may cause a temporary impact on the surrounding communities due to noise, increased air/dust pollution, and traffic congestion throughout the duration of the necessary construction activities. A determination regarding the need for off-site water system improvements would need to be made prior to the commencement of Project construction activities, with any corresponding improvements to be completed prior to Project completion.

CUMULATIVE IMPACTS

Development of the Proposed Project would result in a consumption rate of approximately 460,800 gallons per event, assuming maximum attendance at all Coliseum events, and a non-event average of approximately 7,200 gallons per day, resulting in a total annual water consumption of approximately 24 million gallons per year (based on an average of 46 events per year and daily operation of ancillary structures). This results in a net increase of 24,000 gallons on event days, and an increase of 7,200 gallons per day on non-event days.

Related projects in the vicinity of the Project Site would be estimated to consume a total of approximately 993,637 gallons of water per day upon completion, as shown in Table V.H.2-4. Annual water consumption expected to be associated with the proposed and related projects is estimated at approximately 394 million gallons of water per year (based on related projects and ancillary uses consuming 365 days a year and Proposed Project consuming 46 days per year). As with the Proposed Project, all related projects will be subject to the City-mandated water conservation program as long as the program remains in effect. As the adequacy of existing water infrastructure has not been determined, the Proposed Project, in conjunction with the related projects, may cause a significant adverse impact to water services. Assuming related projects are in full compliance with the program, however, and the Proposed Project implements the mitigation measures listed below, any impact to water services can be reduced to a less than significant level. Ultimately, the service availability for each individual project can only be determined on a project-by-project basis.

Table V.H.2-4
Estimated Water Consumption by Related Projects

Land Use	Size	Consumption Rate (gallons/day) [a]	Total (gallons/day)
Apartment	179 du	176/du	31,504
Community Facility/Clinic	78,840 sf	275/1,000 sf	21,681
Elementary/Junior High School	6,062 students	10/student	60,620
High School	6,954 students	14/student	97,356
Light Industrial	700 employees	13/employee	9,100
Market/Grocery	8,720 sf	88/1,000 sf	767
Multi-Use Development	6,914,165 sf	88/1,000 sf	608,447
Museum	1,128,000 sf	22/1,000 sf	24,816
Office	447,500 sf	165/1,000 sf	73,838
Parking Facility	2,400 spaces	--	--
Restaurant	17,443 sf	330/1,000sf	5,756
Retail	107,370 sf	88/1,000 sf	9,449
Storage	7,910 sf	22/1,000 sf	174
Theater	1,670 seats	4/seat	6,680
University[b]	440,000 sf	88/1,000 sf	38,720
Wholesale Trade Space	215,000 sf	22/1,000 sf	4,730
		Subtotal	993,637
		Stadium	***460,800***
		Ancillary Museum and Retail	***7,200***
		Cumulative Total	**1,461,637**

Notes:
du: dwelling unit.
sf: Square feet.
[a] *Based on 120% of wastewater generation rates provided by the City of Los Angeles Public Works Bureau of Sanitation, March 2002.*
[b] *Based on rates for Library/Public Area provided by the City of Los Angeles Public Works Bureau of Sanitation, March 2002.*
Source: Christopher A. Joseph & Associates, 2002.

MITIGATION MEASURES

To reduce impacts to less than significant levels, the following mitigation measures are required:

1. The Project Applicant shall be required to comply with any improvements necessary to meet Los Angeles Fire Department fire-flow requirements for the Proposed Project.

2. The Proposed Project shall incorporate water saving techniques as required by the City of Los Angeles' mandatory water conservation program (Ordinance Nos. 166,080 and 163,532). Water conservation measures described in the ordinance include, but are not limited to, the following:

- As necessary, the Project Site shall be landscaped with drought-tolerant/indigenous species (xeriscape).

- Low flow flush valves and shower head water-conservation devices shall be installed in all restroom and/or locker room facilities.

In addition, the City of Los Angeles Department of Water and Power recommends the following water conservation measures:

3. Automatic sprinkler systems should be set to irrigate landscaping during early morning hours or during the evening to reduce water losses from evaporation. However, care must be taken to reset sprinklers to water less often in cooler months and during the rainfall season so that water is not wasted by excessive landscape irrigation.

4. Reclaimed water should be investigated as a source to irrigate large landscaped areas, including the grass playing field.

5. On-site recycling of drainage from water used for playing field irrigation should be investigated.

6. Recirculating hot water systems which can reduce water waste in long piping systems where water must be run for considerable periods before hot water is received at the outlet should be investigated.

7. Plumbing fixtures should be selected which reduce potential water loss from leakage due to excessive wear of washers.

LEVEL OF IMPACT AFTER MITIGATION

The Proposed Project's impacts to water service are expected to be less than significant after the implementation of the above mitigation measures.