SECTION 3.0
EXISTING CONDITIONS, IMPACTS, MITIGATION, AND LEVEL OF SIGNIFICANCE AFTER MITIGATION

This section of the Environmental Impact Report (EIR) evaluates the potential of the proposed Long Beach Memorial Medical Center Expansion (proposed project) to result in significant impacts to the environment as a result of construction, operation, and maintenance of the proposed project. This section of the EIR provides a full scope of environmental analysis in conformance with the State of California Environmental Quality Act (CEQA) Guidelines.

The Initial Study for the proposed project[1] determined that there was no evidence that the proposed project would cause significant environmental effects related to five environmental resources: agricultural resources, biological resources, mineral resources, population and housing, and recreation. The Initial Study identified the potential for the proposed project to result in significant impacts to 12 environmental resources warranting further analysis: aesthetics, air quality, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, National Pollution Discharge Elimination System, noise, public service, traffic and transportation, and utilities and service systems. As a result of the detailed evaluation contained in this EIR, it has been determined that the proposed project would not result in potential significant impacts to land use and planning. The potential significant impacts to aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, National Pollution Discharge Elimination System, noise, public service, traffic and transportation, and utilities and service systems would be avoided or reduced to below a level of significance except for air quality and traffic and transportation.

Each section describes the regulatory framework, existing conditions, thresholds of significance, impact analysis, mitigation measures for significant impacts, and level of significance after mitigation. The applicable federal, state, regional, county, and local statutes and regulations that govern individual environmental resources that must be considered by the City of Long Beach Planning Commission and the City Council in the decision-making process are included in the regulatory framework described for each environmental resource. The existing conditions portion of the analysis has been prepared in accordance with the State CEQA Guidelines and includes a description of the environment in the vicinity of the proposed project as it currently exists, from both a local and regional perspective. The existing conditions are described based on literature review and archived resources, agency coordination, and field inspections. Significance thresholds were established in accordance with Appendix G of the State CEQA Guidelines. The potential for cumulative impacts was considered in relation to 43 related projects identified as a result of scoping, agency consulting, and site inspections. Mitigation measures were derived from public and agency input and state-of-the-practice engineering methods. The level of significance after mitigation was evaluated in accordance with the thresholds of significance and the effectiveness of the proposed mitigations to reduce potentially significant impacts to below the significance threshold. The impact analysis contained in this environmental document is based solely on the implementation of the proposed project as described in Section 2, Project Description.

[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

SECTION 3.0
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Each section describes the regulatory framework, existing conditions, thresholds of significance, impact analysis, mitigation measures for significant impacts, and level of significance after mitigation. The applicable federal, state, regional, county, and local statutes and regulations that govern individual environmental resources that must be considered by the City of Long Beach Planning Commission and the City Council in the decision-making process are included in the regulatory framework described for each environmental resource. The existing conditions portion of the analysis has been prepared in accordance with the State CEQA Guidelines and includes a description of the environment in the vicinity of the proposed project as it currently exists, from both a local and regional perspective. The existing conditions are described based on literature review and archived resources, agency coordination, and field inspections. Significance thresholds were established in accordance with Appendix G of the State CEQA Guidelines. The potential for cumulative impacts was considered in relation to 43 related projects identified as a result of scoping, agency consulting, and site inspections. Mitigation measures were derived from public and agency input and state-of-the-practice engineering methods. The level of significance after mitigation was evaluated in accordance with the thresholds of significance and the effectiveness of the proposed mitigations to reduce potentially significant impacts to below the significance threshold. The impact analysis contained in this environmental document is based solely on the implementation of the proposed project as described in Section 2, Project Description.

[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

3.1 AESTHETICS

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts to aesthetics. Therefore, this issue is carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to aesthetics and to identify potential alternatives.

The analysis of aesthetics includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

Aesthetics at the proposed project site has been analyzed in accordance with the methodologies provided by the Land Use element,[2] Open Space and Recreation element,[3] and Conservation element[4] of the City of Long Beach General Plan, and the characterization of aesthetic resources as contained in the California Department of Transportation (Caltrans) designation of scenic highways.[5]

3.1.1 Regulatory Framework

State

California Scenic Highway Program

California's Scenic Highway Program preserves and protects scenic highway corridors from changes that would diminish their aesthetic value. Caltrans designates scenic highway corridors. The nearest eligible state-designated scenic highways and routes to the proposed project site are U.S. Interstate 405 (I-405), U.S. Interstate 710 (I-710), and State Route 1 (SR-1).

[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] City of Long Beach, Department of Planning and Building. July 1991. *Land Use Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[3] City of Long Beach, Department of Planning and Building. October 2002. *Open Space and Recreation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[4] City of Long Beach, Department of Planning and Building. 30 April 1973. *Conservation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[5] California Department of Transportation. March 1996. *Guidelines for the Official Designation of Scenic Highways*. Contact: California Department of Transportation, Division of Procurement and Contracts, 1727 30th Street, Fourth Floor, MS-67, Sacramento, CA 95816. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/shpg1.htm

Local

City of Long Beach General Plan

The proposed project would be under the jurisdiction of the City of Long Beach General Plan. The Land Use element of the General Plan includes the goal of facilities maintenance, which states that "Long Beach will maintain its physical facilities and public right-of-ways at a high level of functional and aesthetic quality."[6] An important component of the Land Use element is the Urban Design Analysis, which examines how the City is structured and the context in which the built environment is seen and understood. The Conclusions and Policy Directions for the Urban Design Analysis offer policy directions for the relationship of building heights to surrounding topography, aesthetic streetscape considerations for the local roadway system, and enhancement of important activity centers. Clustering of different building heights rather than a continuous corridor of tall buildings is recommended along Long Beach Boulevard to emphasize centers over corridors. Building setbacks, landscaping, limited curb cuts, and better building designs are recommended to improved streetscapes along arterials such as Long Beach Boulevard, Willow Street, and Atlantic Avenue. A multipurpose activity center is recommended for the area along Atlantic Avenue and Long Beach Boulevard south of the I-405 freeway, which includes the Memorial Hospital Medical Center Activity Node and acknowledges the beginnings of such a node at the time of the last Land Use element update.[7]

The Open Space and Recreation element[8] of the General Plan recognizes the need to reserve and create more community gardens. Program 2.2 of the Open Space and Recreation element directs the City to work with nonprofit groups to examine the feasibility of expanding open space for community gardens.

The Scenic Routes element of the General Plan[9] serves as a comprehensive plan for the development and protection of a system of scenic routes and corridors. The nearest identified scenic asset to the proposed project site is the Signal Hill view corridor. The only designated scenic routes in the City of Long Beach are Ocean Boulevard from the Los Angeles River to Livingston Drive, Livingston Drive between Ocean Boulevard and 2nd Street, and 2nd Street between Livingston Street and Pacific Coast Highway.

The Conservation element[10] of the General Plan includes the goal "to identify and preserve sites of outstanding scenic, historic, and cultural significance or recreational potential."

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[6] City of Long Beach, Department of Planning and Building. July 1991. *Land Use Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802. (Page 18).

[7] City of Long Beach, Department of Planning and Building. July 1991. *Land Use Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802. (Page 36–45.)

[8] City of Long Beach, Department of Planning and Building. October 2002. *Open Space and Recreation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[9] City of Long Beach, Department of Planning and Building. May 1975. *Scenic Routes Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[10] City of Long Beach, Department of Planning and Building. 30 April 1973. *Conservation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

3.1.2 Existing Conditions

Scenic Vistas

The proposed project is not within the viewshed of a California State Scenic Byway designated by the Caltrans Office of State Landscape Architecture or an All-American or National Scenic Byway as designated by the U.S. Department of Transportation, Federal Highway Administration.[11] The proposed project site is not located near a scenic coastal or waterway views because it is greater than 3 miles north of the Long Beach Harbor. There is a residential neighborhood at a higher elevation north of the proposed project site.

State-Designated Scenic Highways

There is no state-designated highway in the vicinity of the proposed project site (Figure 3.1.2-1, *Scenic Highways and Routes*). Although portions of the Pacific Coast Highway are designated as a California State Scenic Highway, the segment of the highway that runs east to west less than 1 mile to the south of the proposed project site is not subject to the California State Scenic Highway designation. The nearest eligible California State Scenic Highway is a section of SR-1 (Pacific Coast Highway), located approximately 3 miles southeast of the Long Beach Memorial Medical Center campus (Campus).

Visual Character

The 54-acre Campus includes approximately 1,213,945 gross square feet of inpatient and outpatient medical facilities, supported by utilities, parking, and circulation. (Section 2, Project Description, Figure 2.2-1, *Existing Conditions*, and Figure 2.2-2, *Site Photographs*).

The existing visual character of the Campus is defined by the conditioned structures that support inpatient, outpatient, and appurtenant services, additional residential properties, vacant lots, landscaping, and signs.

Conditioned Structures

The primary functions of the Campus are housed in nine conditioned structures constructed over several decades (Figure 3.1.2-2, *Existing Conditions: Structures*). The nine conditioned structures are briefly described below:

1. Miller Children's Hospital—The Miller Children's Hospital (MCH), built in 1969, is a 175,000-square-foot, four-story structure.

2. Long Beach Memorial Medical Center—The Long Beach Memorial Medical Center (LBMMC), built in 1960 as a six-story building, had two stories added in 1970.

3. Administration Building—The Administration Building, built between 1959 and 1963, is a 130,000-square-foot structure.

[11] U.S. Department of Transportation, Federal Highway Administration. 29 June 2004. National Scenic Byways Program. Contact: National Scenic Byways Program, HEPN-50, Room 3232, 400 Seventh Street, SW Washington, DC, 20590. Available at: http://www.byways.org/browse/states/CA/travel.html

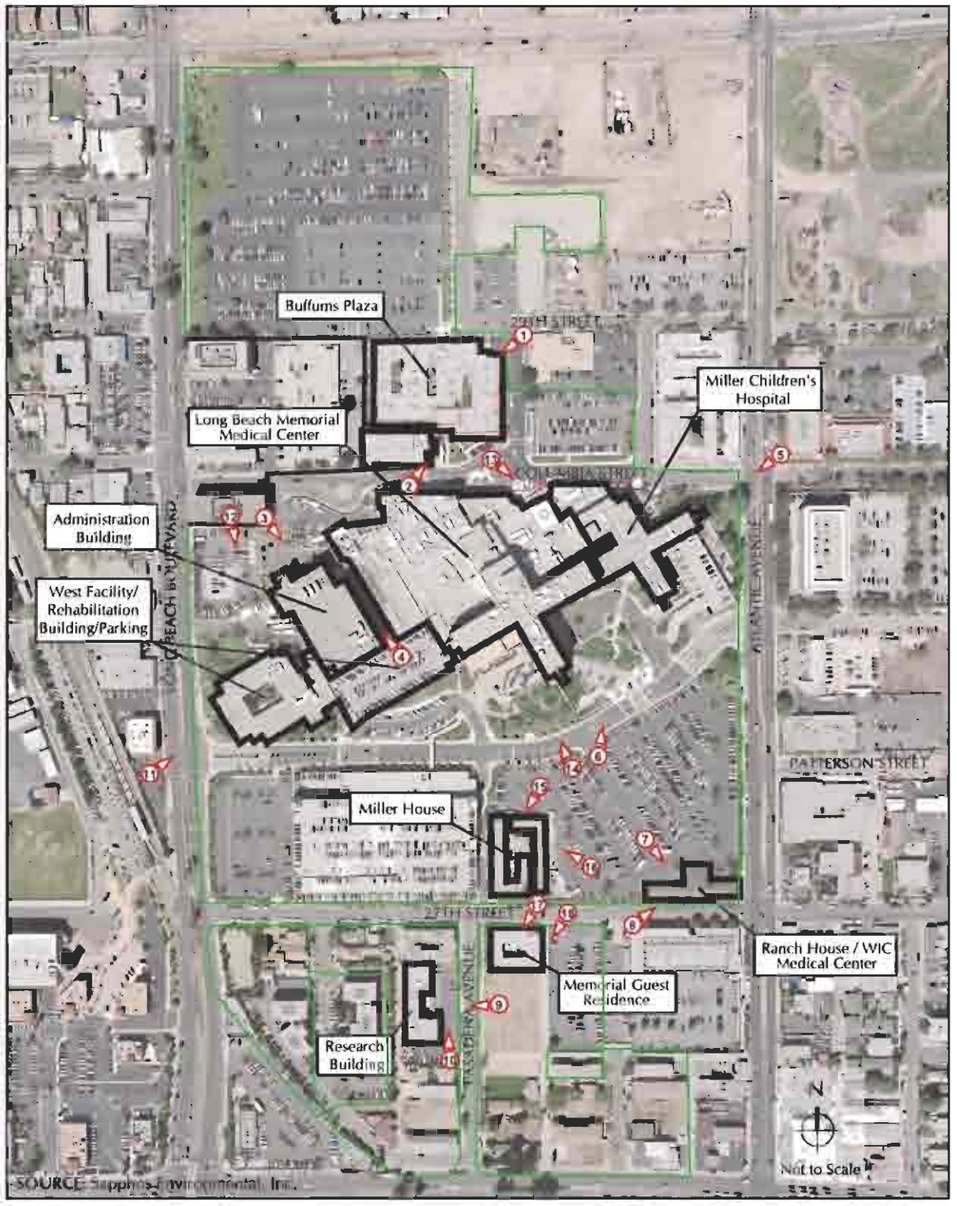
Freeway
Ramp/Interchange
Highway
Primary Road
Primary Ramp/Interchange
Railroad
Rapid Transit
Rapid Transit with other roads

0 0.5 1 2 Miles

Data Source: Thomas Brothers, Caltrans

Locally Designated Scenic Route
Eligible State Scenic Highways - Not Officially Designated
City of Long Beach
City of Signal Hill
LBMMC Campus

FIGURE 3.1.2-1
Scenic Highways and Routes



LEGEND

- LBMMC Boundary
- Buildings Controlled by LBMMC
- Photo Points

BUFFUMS PLAZA

1

2

ADMINISTRATION BUILDING

3

4

MILLER CHILDREN'S HOSPITAL

5

6

RANCH HOUSE / WIC MEDICAL CENTER

7

8

RESEARCH BUILDING

9

10

WEST FACILITY/ REHABILITATION BUILDING/PARKING

11

12

LONG BEACH MEMORIAL MEDICAL CENTER

13

14

MILLER HOUSE

15

16

MEMORIAL GUEST RESIDENCE

17

18

FIGURE 3.1.2-2
Existing Conditions: Structures

4. Memorial West Facility (Rehab)—The Memorial West Facility, built in 1965, is a 77,000-square-foot, two-story structure. The Rehabilitation Building, built in 1965, is a 31,000-square-foot, one-story building at the lower level of the hospital, with doctor parking above.

5. Miller House—The Miller House, built in 1960, is a 25,000-square-foot structure.

6. Ranch House/WIC Medical Center—The Ranch House/WIC Medical Center Building, built in 1963, is a 12,000-square-foot structure.

7. Memorial Guest Residence Hotel—The Memorial Guest Residence Hotel, built in 1962, is a 12,000-square-foot structure.

8. Research Building—The Research Building, built in 1991, is a 20,000-square-foot structure.

9. Buffums Plaza—The Buffums Plaza, built in 1968, is a 35,000-square-foot structure.

The nine conditioned structures within the Campus listed above provide a wide variety of inpatient, outpatient, and appurtenant health care services. The buildings where health care services are provided were constructed between 1956 and 1985; modifications to some buildings were undertaken in the 1990s. The visual character of the Campus is dominated by the eight-story main tower of the LBMMC (built in 1960 and modified in 1970) and the four-story MCH built in 1969, which are characteristic of the architecture of public buildings constructed in the Kennedy-Johnson-Nixon-Ford years.[12] The LBMMC and the MCH are set back from the two nearest primary arterials, Long Beach Boulevard and Atlantic Avenue. This is a practice that was common for the time period and a departure from earlier periods when public buildings were often aligned with the primary street and the primary facade faced the primary street. The strong geometric lines, glass, and exterior sheathing of the buildings are also characteristic of public buildings constructed during this time period.

There is a wide variety in massing within the Campus buildings, from the eight-story, 697,630-square-foot LBMCC to the one-story, 122,000-square-foot Ranch House/WIC Medical Center. The massing of the buildings is largely related to the diversity of services provide, equipment requirements, and capacity to serve. The inpatient facilities vary in height from two to eight stories. Outpatient facilities are typically one to two stories. Public building entrances are readily identifiable from parking areas and linkages to adjacent streets.

There are a wide variety of exterior building finishes; however, the primary exterior finishes are poured concrete, stucco, metal, and glass. Most of the exterior facades are painted in light, earth-toned facades with low potential for glare. All health care buildings are equipped with exterior lighting.

In addition to the nine conditioned structures listed above, there are 14 residential properties (72 residential units) within the Campus on properties owned by LBMMC that were constructed at various times between 1909 and 1959. None of the buildings on the Campus have been identified as significant architectural features in the City of Long Beach.[13] There are 13 additional office buildings

[12] Carole Rifkind. 1998. *A Field Guide to Contemporary American Architecture*. New York, NY: Penguin Group.

[13] David Gebhard and Robert Winter. 1994. *Los Angeles: An Architectural Guide*. Salt Lake City, UT: Gibb Smith Publisher.

and a motel located immediately adjacent to the Campus that further contribute to the existing urbanized visual character of the Campus.

Landscape

In the mid-1990s, LBMMC, at the request of the City of Long Beach, undertook substantial improvements to landscape treatment of the Campus along Long Beach Boulevard (Figure 3.1.2-3, *Existing Conditions: Landscape*). Campus landscaping plays an essential role in creating a positive impression with the public and in unifying the disparate functions on the Campus. Mature trees, pleasant vistas, and the creative use of surface materials minimize stress for not only patients but also visitors and staff.

The existing streetscape and Campus edge along Long Beach Boulevard and Atlantic Avenue currently consist of a white, wrought-iron fencing setback with low-lying plants or grass and trees in the foreground, especially around visitor and staff parking areas. Generous landscaping is provided on the Campus along public street frontages. Typical trees consist of palm, pepper, and eucalyptus along with various types of shrubs. Currently, plantings are maintained to provide a level of transparency at eye level that allows viewing from adjacent areas around or on the Campus. The character of 27th Street has an intimate, pedestrian scale and a commercial presence.

Signs

As part of the 1999 Master Plan, LBMMC improved wayfinding throughout the Campus through installation of signs, including entry monuments, directional signs, and monumentation of key buildings (Figure 3.1.2-4, *Existing Conditions: Signs*). However, the existing signage currently does not use a consistent exterior signage system that provides aid in navigation and direct patients, visitors, and staff to their destination.

Light and Glare

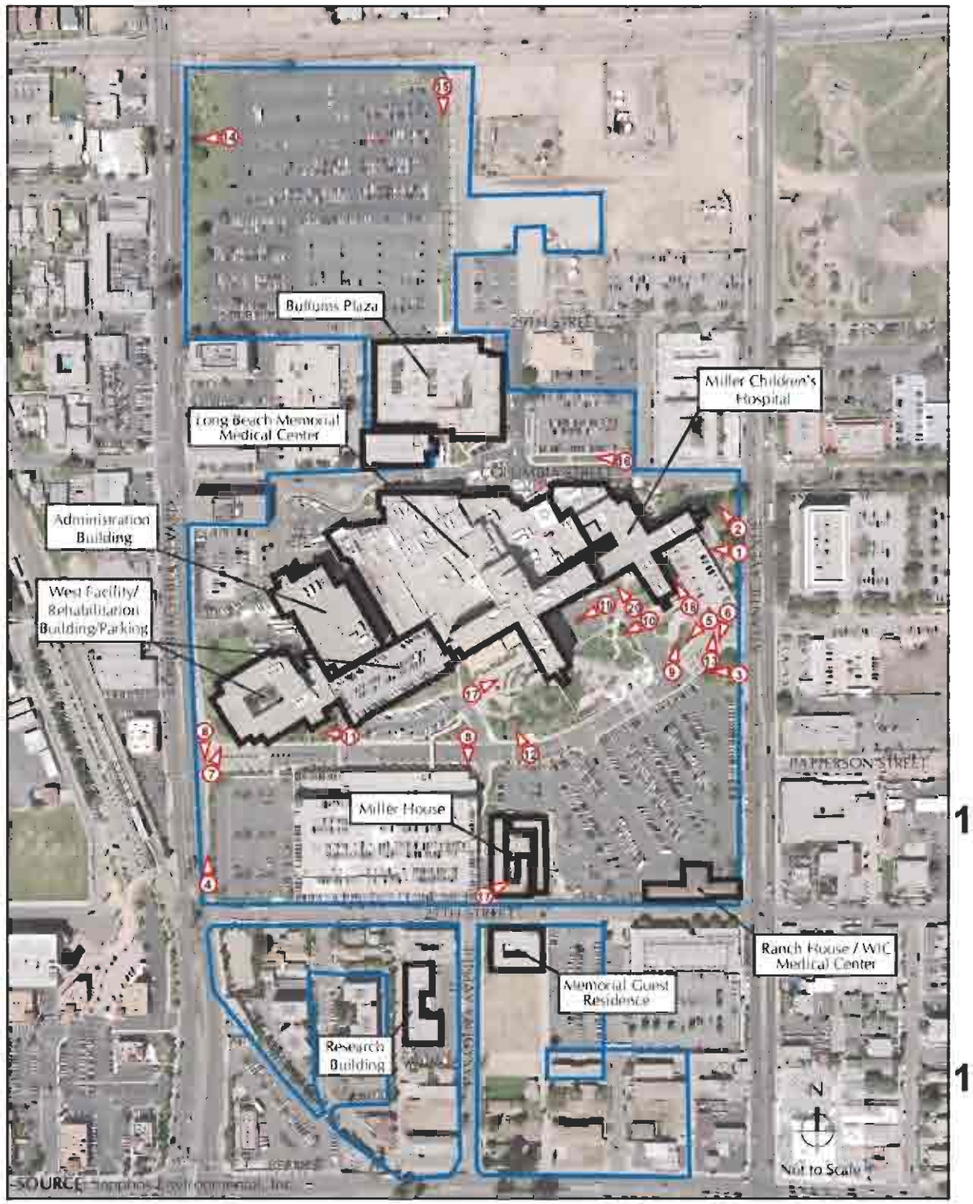
Existing sources of light and glare in the proposed project area are residential lighting in the surrounding neighborhoods; light and glare sources from existing buildings; light sources from the existing parking structures and lots; street lighting at intersections; and vehicular traffic along East Spring Street to the north, Atlantic Avenue to the east, Willow Street to the south, and Long Beach Boulevard to the west.

3.1.3 Significance Threshold

The potential for the proposed project to result in impacts to aesthetics was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines.

The proposed project would normally be considered to have a significant impact to aesthetics when the potential for any one of the following four thresholds occurs:

- Results in a substantial adverse effect on a scenic vista
- Substantially damages scenic resources including, but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway



EXTERIOR BOUNDARY OF THE CAMPUS


1


2


3


4

PRIMARY ENTRIES


5


6


7


8

INTERIOR SIDEWALK EDGE TREATMENTS


9


10


11


12

PARKING LOT EDGE TREATMENTS


13


14


15


16

BUILDING FACADES AND COURTYARDS

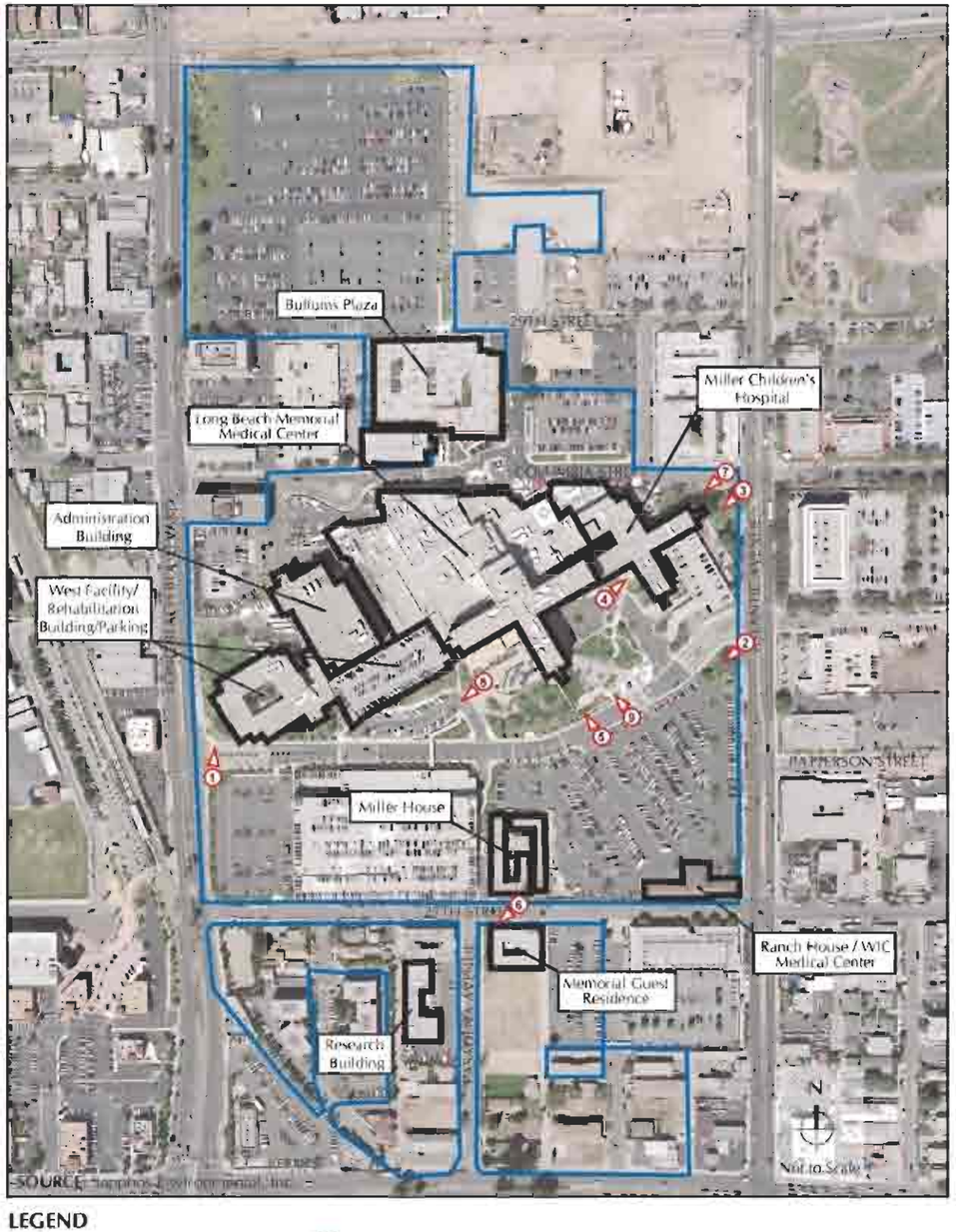

17


18


19


20

FIGURE 3.1.2-3
Existing Conditions: Landscape



GATEWAY SIGNS

1

2

3

BUILDING SIGNS

4

5

6

DIRECTIONAL SIGNS

7

8

9

FIGURE 3.1.2-4
Existing Conditions: Signs

- Substantially degrades the existing visual character or quality of the proposed project site and its surroundings

- Creates a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area

3.1.4 Impact Analysis

Scenic Vistas

Direct and Indirect Impacts

Implementation of the proposed project would not be expected to have a substantial adverse effect on scenic vistas. The proposed project would not take place within, or be visible from, the viewshed of a California State Scenic Byway designated by the Caltrans Office of State Landscape Architecture or an All-American or National Scenic Byway as designated by the U.S. Department of Transportation, Federal Highway Administration.[14] The new structural development would take place within the existing Campus, with structures of similar height and scale, and in an urbanized area with compatible development. The proposed project would not be expected to obstruct scenic coastal or waterway views because it is greater than 3 miles north of the Long Beach Harbor. There is a residential neighborhood at a higher elevation north of the proposed project site, and the proposed project would not substantially change any scenic view of the coast to the south.

Because the proposed project would be implemented in a blighted, physically degraded[15] area designated by the City of Long Beach as the Central Long Beach Redevelopment Area, the proposed project's impacts are anticipated to contribute as a relative aesthetic improvement. Physical development of the proposed project is expected to minimally impact the aesthetics of the residential and commercial fabric of the immediately surrounding neighborhood during proposed project demolition and construction activities; however, these effects would be limited to properties already owned and occupied by the LBMMC. The proposed project would be aesthetically consistent with land use recommendations for mixed-use commercial development in both City of Long Beach[16] and City of Signal Hill[17] General Plans.

One City of Long Beach open space amenity exists adjacent to the proposed project site, the approximately 6-acre Veterans Memorial Park (Figure 2.1-2, *Long Beach Memorial Medical Center Location*). The proposed project would not be expected to degrade scenic vistas to, or from, the park as the intended land uses are consistent with those planned for the area in the City of Long Beach's

[14] U.S. Department of Transportation, Federal Highway Administration. 29 June 2004. National Scenic Byways Program. Contact: National Scenic Byways Program, HEPN-50, Room 3232, 400 Seventh Street, SW Washington, DC, 20590. Available at: http://www.byways.org/browse/states/CA/travel.html

[15] City of Long Beach, Redevelopment Agency. December 2000. *Report to the City Council for the Proposed Re-Adoption of the Central Long Beach Redevelopment Project*. Prepared by: Keyser Marston Associates, Inc., 500 South Grand Avenue, Suite 1480, Los Angeles, CA 90017. Contact: City of Long Beach, 333 West Ocean Boulevard, 3rd Floor, Long Beach, CA 90802.

[16] City of Long Beach, Department of Planning and Building. July 1991. *General Plan Maps and Descriptions of Land Use Districts*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[17] City of Signal Hill, Community Development Department. 3 July 2001. *Land Use Element of the Signal Hill General Plan*. Contact: City of Signal Hill, Community Development Department, 2175 Cherry Avenue, Signal Hill, CA 90755. Available at: http://www.signal-hill.ca.us/community_development/general_plan.php

General Plan land use designations.[18,19] Moreover, the conceptual plan for the proposed project does not call for the removal of any open space amenity, but includes open space development of a healing garden for cancer patients, which is consistent with the City of Long Beach's Open Space and Recreation element (Program 2.2) of the General Plan, as well as those of the County of Los Angeles and the Southern California Association of Governments ("providing open space for public health and safety").[20]

State-Designated Scenic Highways

Direct and Indirect Impacts

The implementation of the proposed project would not be expected to have a significant impact on scenic resources within a state-designated scenic highway. There is no state-designated highway in the vicinity of the proposed project site (Figure 3.1.2-1). Although portions of the Pacific Coast Highway are designated as a California State Scenic Highway, the segment of the highway that runs east to west less than 1 mile to the south of the proposed project site is not subject to the scenic highway designation. Nevertheless, views of the proposed project area from the Pacific Coast Highway would not be expected to be significantly altered by the proposed project because the street-level and skyline intrusion of the planned new construction is consistent with the existing visual character of the community.

Visual Character

Direct and Indirect Impacts

The construction phase of the proposed project would have a temporary impact on the existing visual quality of the site and its surroundings due to the physical upheaval caused by soil disturbance, waste debris generation, and security barriers required of the construction activities. However, it is anticipated that the potential impacts and short-term nature of the degradation of the visual character of the neighborhood are less than significant and would be outweighed by the long-term visual enhancement to be derived from the completed project and its provision of visually attractive structural and landscape amenities.

Landscaping would be provided along Long Beach Boulevard, Spring Street, Atlantic Avenue, and 27th Street frontages consistent with City of Long Beach requirements. Landscaping within the Campus area would be consistent with existing Campus landscaping. A healing garden would be developed adjacent to the Todd Cancer Institute (on the northwestern corner of the Campus, southeast of the intersection of Long Beach Boulevard and Spring Street, adjacent to the proposed building). Amenities and plant selections would be sensitive to the needs of cancer patients and would accentuate the healing and medicinal properties of certain plants. The development of the City of Long Beach–

[18] City of Long Beach, Department of Planning and Building. July 1991. *Land Use Element of the Long Beach General Plan Open Space and Recreation Element.* Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[19] City of Long Beach, Department of Planning and Building. 30 April 1973. *Conservation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

[20] City of Long Beach, Department of Planning and Building. October 2002. *Open Space and Recreation Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

approved landscaping plan would ensure that the proposed project contribute to the visual quality of its surroundings.

Light and Glare

Direct Impacts

The additional security lighting that would be required for the build-out of TCI Phases I and II; MCH pediatric inpatient tower Phases I and II, link building, and outpatient building; central plant building; roadway realignment; and surface parking areas, parking structure, and building signs; as well as the lighting of entry monuments would have the potential to contribute substantial sources of new light in the vicinity of the Campus. Careful selection of exterior building materials and window glass treatments, along with appropriate street and parking lot lamp shading, would likely serve to mitigate these potential impacts to a less than significant level. LBMMC currently has a security lighting program on file with the City of Long Beach Police Department. Existing lighting treatments used by LBMMC have been effective in directing light to areas that require lighting for security, while minimizing excess light to the maximum extent practicable.

The addition of three buildings and the central plant would have the potential to result in a new substantial source of glare from the materials used to finish the exterior facades of the new buildings. The existing buildings are finished in materials that produce an acceptable level of glare. Incorporation of minimally reflective surfaces would reduce reflected glare to below the level of significance. The ability to avoid the creation of new substantial sources of glare requires the consideration of mitigation measures.

3.1.5 Cumulative Impacts

The potential for cumulative impacts to aesthetics was evaluated in relation to the closely related past, present, and reasonable foreseeable and probable future projects described in Table 2.6-1, *List of Related Projects*.

The proposed project would not result in cumulative impacts to aesthetics when considered in conjunction with related projects. As with the proposed project, the City of Long Beach projects involve development that would potentially result in impacts to aesthetics; however, due to the vicinity of the other development projects to the proposed project area, the proposed project would not result in cumulative impacts when considered in conjunction with the other projects.

3.1.6 Mitigation Measures

Measure Aesthetics-1

The potential increase in the amount of light and glare produced due to implementation of the security lighting provided for each element of the proposed project shall be reduced to below the threshold of significance by mandating the design type of the light fixtures, light standard height, and light fixture and standard orientation. Prior to completion of final plans and specifications for each structural element of the project, lighting plans and specifications shall be submitted to the City of Long Beach Department of Public Works for review to ensure that all light fixtures shall use glare control visors, arc tube suppression caps, and a photometric design that maintains 70 percent of the light intensity in the lower half of the light beam, or comparable design or technology, to achieve those criteria. This requirement shall apply to all elements of the project: Todd Cancer Institute Phases I and II; Miller

Children's Hospital (MCH) pediatric inpatient tower Phases I and II, and central plant building; MCH pediatric outpatient building; MCH link building; roadway realignment; and parking improvements. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Public Works.

Measure Aesthetics-2

The potential increase in the amount of glare produced due to implementation of the structural elements of the proposed project shall be reduced to below the threshold of significance by mandating the design type of the reflective surface of the buildings, careful selection of exterior building materials, and window glass treatments. Prior to the completion of final plans and specifications for each structural element of the project, plans and specifications shall be submitted to the City of Long Beach Department of Public Works for review to ensure that the selection of exterior building materials and window glass treatments would not create uncomfortable levels of glare on public roadways or surrounding redirected areas for the structural elements of the project: Todd Cancer Institute Phases I and II, Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, MCH pediatric outpatient building, and MCH link building. Completion of this mitigation measure shall be monitored and enforced by the City of Long Beach Department of Public Works.

3.1.7 Level of Significance after Mitigation

Implementation of mitigation measures Aesthetics-1 and Aesthetics-2 would reduce significant impacts to aesthetics from the potential for substantial new sources of light and glare to below the level of significance.

3.2 AIR QUALITY

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) Department of Planning and Building determined that the proposed project may result in environmental impacts to air quality. Therefore, this issue is carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to air quality and to identify potential alternatives.

The analysis of air quality includes a description of the regulatory framework that guides the decision-making process, existing conditions of the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation.

Air quality at the proposed project site was evaluated in accordance with the methodologies and information provided by Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (SCAQMD),[2] and Air Quality Technical Report prepared by SCS Engineers (Appendix C, *Air Quality Technical Report*).

3.2.1 Regulatory Framework

This regulatory framework identifies the federal and state laws that govern the regulation of air quality and that must be considered by the City of Long Beach regarding decisions on projects that involve construction, operation, or maintenance activities that would result in air emissions.

Responsibility for attaining and maintaining ambient air quality standards in California is divided between the California Air Resources Board (CARB) and regional air pollution control or air quality management districts. Areas of control for the regional districts are set by CARB, which divides the state into air basins. These air basins are largely based on topography that limits air flow access, or by county boundaries.

Federal

Federal Clean Air Act

The federal Clean Air Act (CAA) requires that states prepare State Implementation Plans (SIP), whose purpose is to attain and maintain the National Ambient Air Quality Standards (NAAQS). Section 176(c) of the federal CAA, as amended in 1990, established the criteria and procedures by which the Federal Highway Administration (FHWA) (Title 23 U.S. Code), the Federal Transit Administrations (FTA),[3] and metropolitan planning organizations (MPOs) determine the conformity of federally funded or approved highway and transit plans, programs, and projects to SIPs. The

[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[2] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Contact: 21865 Copley Drive, Diamond Bar, CA 91765.

[3] Office of the Federal Register. 24 November 1993. *Federal Register*. 58 FR 62188: "Transportation Conformity Rule." Washington, DC: Government Printing Office.

provisions of 40 CFR Parts 51 and 93[4] apply in all nonattainment and maintenance areas for criteria pollutants for which the area is designated nonattainment or has a maintenance plan.

The U.S. Environmental Protection Agency (EPA) sets the NAAQS. Existing NAAQS are presented together with state standards in Table 3.2.1-1, *Ambient Air Quality Standards*. In July 1997, the U.S. EPA promulgated stricter standards for ozone (O_3) and fine particulate ($PM_{2.5}$); however, deadlines for attaining the standards were extended over original proposals, with up to 15 years allowed for attaining the $PM_{2.5}$ standard. The PM_{10} standard was revised, but the existing PM_{10} standard remains in effect until attainment is achieved. Until there has been sufficient monitoring for the U.S. EPA to designate the $PM_{2.5}$ attainment status for each region, the PM_{10} standard will remain the particulate standard of reference. However, federal enforcement of the new standards are currently on hold pending the outcome of an appeal by the U.S. EPA of a 2 to 1 decision by a three-judge panel of the U.S. Court of Appeals for the District of Columbia on May 14, 1999. This decision removed the revised federal PM_{10} standard, put a hold on implementing the eight-hour ozone standard, and asked for further comments on the $PM_{2.5}$ standard.

The 1990 amendments to the federal CAA divide the nation into five categories of planning regions, depending on the severity of their pollution, and set new timetables for attaining the NAAQS. The categories range from "marginal" to "extreme." Attainment deadlines are from 3 to 20 years, depending on the category. The Los Angeles Basin (Basin) is the only region in the nation classified as an "extreme" ozone nonattainment area. For areas designated "extreme," Section 181 of the federal CAA sets the ozone attainment deadline at year 2010. Federal deadlines for attaining carbon monoxide (CO) and PM_{10} standards in this region are years 2000 and 2005, respectively. The Basin could not demonstrate attainment by the year 2000 deadline because the eight-hour federal standard was exceeded twice in year 2000 in south central Los Angeles County. However, there was no exceedance of any CO standard anywhere in the Basin in 2001. In 2002, the Basin could not demonstrate attainment because the eight-hour federal standard was exceeded once in south central Los Angeles County.

Section 182(e)(5) of the federal CAA allows the U.S. EPA administrator to approve provisions of an attainment strategy in an "extreme" area that anticipates development of new control techniques or improvement of existing control technologies, if such provisions are not needed to achieve required incremental reductions to the year 2000; and the state has submitted enforceable commitments to develop and adopt contingency measures to be implemented, if the anticipated technologies do not achieve planned reductions.

The U.S. EPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the federal CAA. If a state fails to correct these planning deficiencies within two years of federal notification, the U.S. EPA is required to develop a federal implementation plan (FIP) for the identified nonattainment area or areas.

[4] Final Rule effective September 15, 1997.

TABLE 3.2.1-1
AMBIENT AIR QUALITY STANDARDS

	National		State
Air Pollutant	**Primary**	**Secondary**	**Standard**
Ozone (O_3)	0.12 ppm, 1-hr avg.	0.12 ppm, 1-hr avg.	0.09 ppm, 1-hr avg.
Carbon monoxide (CO)	9.5 ppm, 8-hr avg. 35 ppm, 1-hr avg.	9.5 ppm, 8-hr avg. 35 ppm, 1-hr avg.	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.
Nitrogen dioxide (NO_2)	0.0534 ppm, annual avg.	0.0534 ppm, annual avg.	0.25 ppm, 1-hr avg.
Sulfur dioxide (SO_2)	0.03 ppm, annual avg. 0.14 ppm, 24-hr avg.	0.50 ppm, 3-hr avg.	25 ppm, 1-hr avg. 0.04 ppm, 24-hr avg.
Suspended particulate matter (PM_{10})	150 $\mu g/m^3$, 24-hr avg. 50 $\mu g/m^3$ AAM	150 $\mu g/m^3$, 24-hr avg. 50 $\mu g/m^3$ AAM	50 $\mu g/m^3$, 24-hr avg. 30 $\mu g/m^3$ AGM
Particulate matter ($PM_{2.5}$)	65 $\mu g/m^3$, 24-hr avg. 15 $\mu g/m^3$ AAM	65 $\mu g/m^3$, 24-hr avg. 15 $\mu g/m^3$ AAM	12 $\mu g/m^3$ AGM
Sulfates (SO_4)	—	—	25 $\mu g/m^3$, 24-hr avg.
Lead (Pb)	1.5 $\mu g/m^3$, calendar quarter	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$, monthly avg.
Hydrogen sulfide (H_2S)	—	—	0.03 ppm, 1-hr avg.
Vinyl chloride	—	—	0.010 ppm, 24-hr avg.
Visibility-reducing particles	—	—	Insufficient amount to reduce prevailing visibility to less than 10 miles at relative humidity less than 70 percent, 1 observation

KEY:
AAM = annual arithmetic mean
AGM = annual geometric mean
avg. = average
hr = hour
$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million by volume
SOURCE: California Air Resources Board. 9 July 2003. *Ambient Air Quality Standards*. Available at: http://www.arb.ca.gov/aqs/aaqs2.pdf

State

California Clean Air Act

The California CAA of 1988 requires all air pollution control districts in the state to endeavor to achieve and maintain state ambient air quality standards for O_3, CO, and NO_2 by the earliest practicable date, and to develop plans and regulations specifying how they will meet this goal. There are no planning requirements for the state PM_{10} standard. California's ambient air standards are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards (Table 3.2.1-1).

Regional

South Coast Air Quality Management District

On a regional level, the SCAQMD and the Southern California Association of Governments (SCAG) have responsibility under state law to prepare the Air Quality Management Plan (AQMP), which contains measures to meet state and federal requirements. When approved by CARB and the U.S. EPA, the AQMP becomes part of the SIP.

These agencies adopted plans to meet the national and state standards, known as the 1999 AQMP, which was approved by the U.S. EPA on May 10, 2000, as the federally enforceable ozone SIP for the Basin. However, the CO portion of the 1999 AQMP was not approved by the U.S. EPA and there is currently no approved CO attainment or maintenance SIP for the Basin. The 2003 revision, now undergoing public review, demonstrates that the national CO standards have been attained and that the 2003 AQMP will serve as both the CO attainment and maintenance SIP when approved by the U.S. EPA.

Local

City of Long Beach General Plan

The City of Long Beach adopted the current Air Quality element to their General Plan in December 1996.[5] The purpose of the Air Quality element is to promote healthful air for citizens of the City of Long Beach. The Air Quality element establishes goals, policies, and actions under the direction of the following principles:

- Achieve air quality improvements in such a manner that sustains current economic development while encouraging future growth.
- Improve the quality of life for citizens by providing greater opportunities, convenience, and choice.
- Reinforce local mobility goals by reducing peak-hour traffic congestion.
- Foster behavior change through public information and education, incentives, and pricing that reflects total societal costs for administration and enforcement.

The Air Quality element is divided into seven topic areas, each supported by a general long-range goal for directing efforts. The topic areas are as follows:

- Government organization, roles, and responsibilities
- Ground transportation
- Air transportation
- Land use
- Particulate emission
- Energy conservation
- Education

[5] City of Long Beach, Department of Planning and Building. December 1996. *Air Quality Element of the Long Beach General Plan*. Prepared by: City of Long Beach, Department of Planning and Building, City Hall, 333 West Ocean Boulevard, Long Beach, CA 90802.

Each goal is reinforced by a series of policies that are to be implemented through a number of actions. Of these actions, the following 13 have been taken into consideration in the planning and evaluation of the proposed project:

- Action 2.1.2.2—Promote trip reduction programs, such as carpool incentives, vanpools, telecommuting, and free transit passes among City employees, to set an example for private employers.

- Action 2.3.1.1—Promote expansion, marketing, and improved quality of service of Long Beach Transit to double transit ridership by year 2010.

- Action 2.3.1.10—Promote employer participation in a regional transit voucher system where employee benefit options may include provision of vouchers to be accepted on all Southern California transit systems.

- Action 2.4.1.3—Ensure that all new development is designed and constructed to facilitate and encourage travel by carpool, vanpool, transit, bicycle, and foot.

- Action 2.4.1.10—Ensure that pedestrian walkways are safe, convenient, and aesthetically pleasing, especially at major activity centers.

- Action 2.4.1.11—Establish parking policies at employment centers consistent with the demand management provisions of the element and of the Trip Reduction Ordinance.

- Action 5.1.1—Increase residential densities and commercial intensities close to transit stations to improve the effectiveness and usage of transit and other nonautomotive forms of transportation.

- Action 5.1.5—Develop incentives to encourage in-fill development near activity centers and along transportation corridors to increase participation in alternative modes of travel.

- Action 5.2.1—Improve the jobs-to-housing balance through new development and redevelopment project reviews and actions.

- Action 6.1.1—Evaluate current efforts to regulate construction and renovation methods minimizing emissions from building materials and the construction process to ensure their maximum effectiveness, taking into consideration public and private costs.

- Action 7.1.4—Encourage the incorporation of energy conservation features in the design of all new construction.

- Action 7.1.5—Encourage the installation of conservation devices and low energy-using/waster-consuming appliances in new and existing development.

- Action 7.2.1—Invest in the expansion of feasible recycling programs for all residents and businesses.

3.2.2 Existing Conditions

The City of Long Beach is located in the Los Angeles Basin, which is composed of a 6,600-square-mile area encompassing all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The analysis of existing conditions related to air quality includes a summary of pollutant levels prior to implementation of each component of the proposed project. All of the proposed project components are located within the Basin; therefore, all air quality data and analysis are presented as an aggregate of the entire proposed project area.

The climate of the City of Long Beach (i.e., the Basin) is categorized as Mediterranean, which is characterized by dry summers, rainy winters, and relatively modest changes in temperature. During the dry season, the Eastern Pacific High-Pressure Area (a semipermanent feature of the general hemispheric circulation pattern) dominates the weather over much of Southern California. The Eastern Pacific High-Pressure Area produces warm, very dry air that descends and caps the cool, ocean-modified air, producing a marine layer. This marine layer is the prominent weather feature for the Basin for much of the year, and occurs especially during the late spring and lasts until early fall.

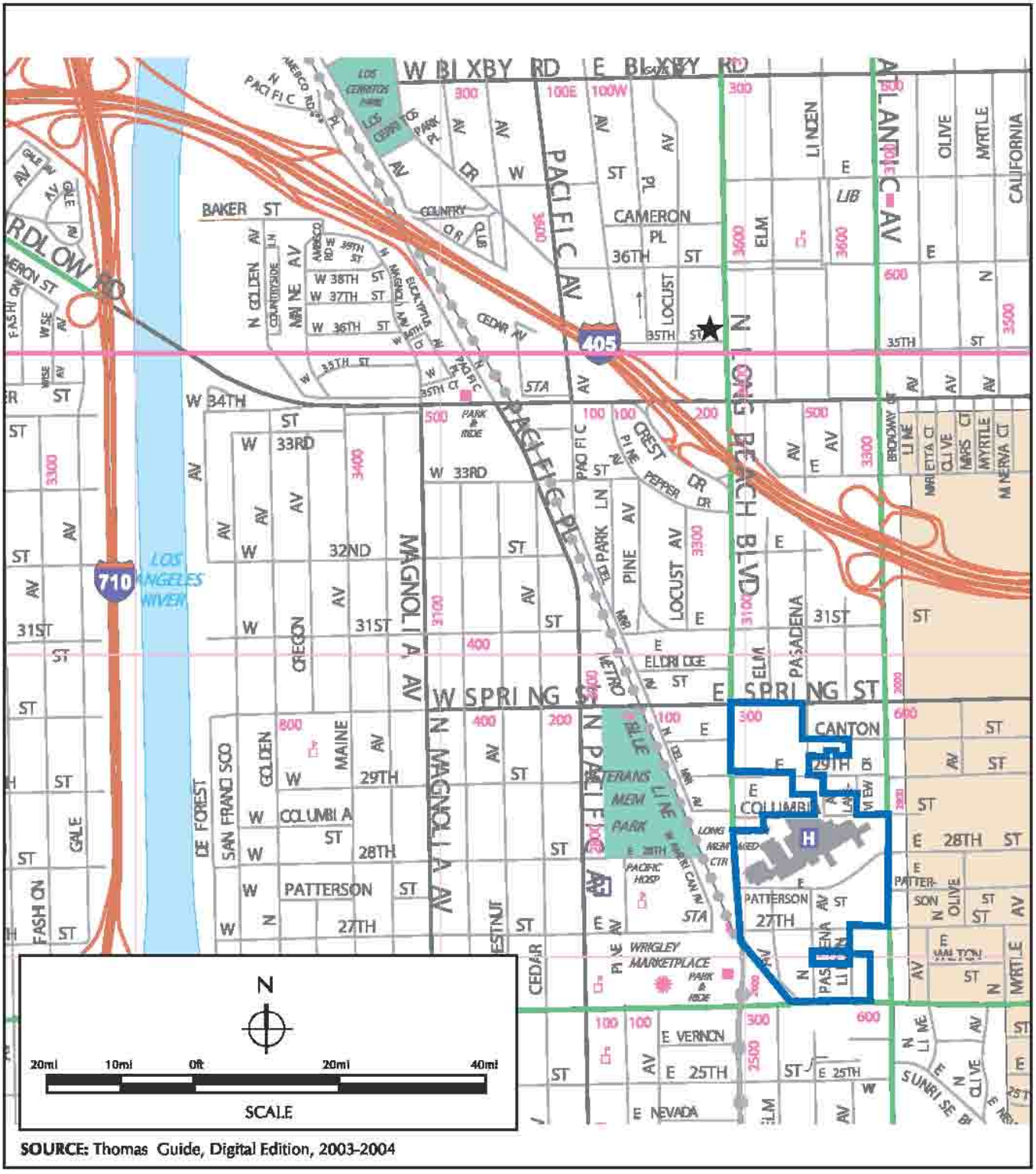
The annual average high temperature for the Basin is 75 °F, and the average low is 57 °F. Winds are generally light, with frequent afternoon sea breezes of 10 to 15 miles per hour (MPH). Severe weather is uncommon in the Basin, but strong offshore easterly winds known as the Santa Anas can reach 25 to 35 MPH below the passes and canyons. Passing winter storms can also bring southeast winds of up to gale force. However, for the most part, damaging winds tend to be rare and highly localized.[6]

The Basin's warm climate and shallow, basin-like topography, surrounded by mountains, are highly conducive to the formation and transport of air pollution. Surface pollutants, such as CO and NO_2, react with sunlight to form smog. Peak ozone concentrations in the Basin over the past two decades have occurred at the base of the mountains around Azusa and Glendora in the County of Los Angeles and at the crestline in the mountain area above the City of San Bernardino. Both the peak ozone concentrations and the number of days the standards were exceeded decreased everywhere in the Basin throughout the 1990s. CO concentrations have also dropped significantly throughout the Basin as a result of strict new emission controls and reformulated gasoline sold in winter months.

In 1990, the peak ozone concentration in central Los Angeles was 0.20 parts per million (ppm) and the state ozone standard was exceeded 32 times. In 2000, the peak reading at that same station was 0.14 ppm and the state standard was exceeded eight times. These improvements have occurred despite extensive population growth in the Basin during the decade.

The SCAQMD has divided the Basin into source-receptor areas (SRAs), based on similar meteorological and topographical features. The proposed project would be located in SRA 4, South Coastal Los Angeles County (Figure 3.2.2-1, *Air Quality Monitoring Station*). Air quality in SRA 4 is monitored at the SCAQMD's monitoring station located at 3648 North Long Beach Boulevard in the City of Long Beach. The SCAQMD is monitoring levels of both eight-hour concentrations of O_3 and $PM_{2.5}$. Where readings are available, the eight-hour O_3 and the $PM_{2.5}$ concentrations with readings for SRA 4 for the past five years, with the applicable state and national standards, are

[6] Todd R. Morris. 6 October 2003. "Letter of Introduction." Los Angeles, CA: National Weather Service Forecast Office. Available at: http://www.nwsla.noaa.gov/climate/climate_intro.html



SOURCE: Thomas Guide, Digital Edition, 2003-2004

LEGEND

- Air Quality Monitoring Station
- Long Beach Memorial Medical Center Campus Boundary

FIGURE 3.2.2-1
Air Quality Monitoring Station

shown in Table 3.2.2-1, *Summary of Air Quality Data, South Coastal Los Angeles County (SRA 4) Air Monitoring Station*.

TABLE 3.2.2-1
SUMMARY OF AIR QUALITY DATA,
SOUTH COASTAL LOS ANGELES COUNTY (SRA 4) AIR MONITORING STATION

	1998	1999[a,b]	2000	2001	2002
Ozone (O_3)					
State standard (1-hr avg; 0.09 ppm)					
National standard (1-hr avg; 0.12 ppm)					
National standard (8-hr avg; 0.08 ppm)					
Maximum 1-hr concentration (in ppm)	0.15	0.13	0.12	0.091	0.084
Maximum 8-hr concentration (in ppm)	0.11	0.08	0.08	0.070	0.065
Number of days state standard exceeded	17	3	3	0	0
Number of days national 1-hr standard exceeded	5	0	1	0	0
Number of days national 8-hr standard exceeded	9	0	4	0	0
Carbon Monoxide (CO)					
State standard (1-hr avg 20 ppm)					
National standard (1-hr avg 35 ppm)					
State standard (8-hr avg 9.0 ppm)					
National standard (8-hr avg 9 ppm)					
Maximum concentration 1-hr period (in ppm)	8.0	9.0	10.0	6.0	6.0
Maximum concentration 8-hr period (in ppm)	6.1	7.6	5.8	4.71	4.6
Number of days state/national 1-hr standard exceeded	0	0	0	0	0
Number of days state/national 8-hr standard exceeded	0	0	0	0	0
Nitrogen Dioxide (NO_2)					
State standard (1-hr avg; 0.25 ppm)					
National standard (0.0534 AAM in ppm)					
Annual arithmetic mean (in ppm)	0.0398	0.0342	0.0313	0.0308	0.0298
Percent national standard exceeded	0	0	0	0	0
Maximum 1-hr concentration	0.17	0.13	0.14	0.13	0.13
Number of days state 1-hr standard exceeded	0	0	0	0	0
Suspended Particulates (PM_{10})					
State standard (24-hr avg; 50 g/m^3)					
National standard (24-hr avg; 150 g/m^3)					
Maximum 24-hr concentration	69	79	74	75	74
Percent of samples exceeding state standard	10.2	22	16	17	8.6
Percent of samples exceeding national standards	0	0	0	0	0
Suspended Particulates ($PM_{2.5}$)					
National standard (24-hr avg; 65 μg/m^3)					
Maximum 24-hr concentration	ND	66.9	164	72.9	62.7
Percent samples exceeding national standard	ND	0	1.3	0.3	0
AAM concentration (μg/ml)	ND	21.5	19.2	21.4	19.5

KEY:
ND = no data AAM = annual arithmetic mean mg/m^3 = milligrams per cubic meter
avg = average ppm = parts per million μg/m^3 = micrograms per cubic meter
NOTES:
[a] $PM_{2.5}$ monitoring began in 1999.
[b] Source: California Air Resources Board. No Date. Annual Data, 1999–2002. Available at: http://www.arb.ca.gov/
SOURCE: South Coast Air Quality Management District. 8 November 2002. Air Quality Data, 1998–2002. Available at: http://ozone.aqmd.gov/smog/#aqdata

The analysis of existing conditions related to air quality includes a summary of pollutant levels prior to the implementation of each component of the proposed project. All of the proposed project components are located within the Basin; therefore, all air quality data and analysis are presented as an aggregate of the entire proposed project area.

O_3 concentrations within SRA 4 have varied from year to year, but have remained relatively constant over the past five years. One-hour CO concentrations are low, and eight-hour concentrations have declined over this same five-year period. PM_{10} and $PM_{2.5}$ concentrations are affected by meteorology. The State of California 24-hour PM_{10} standard was exceeded by 8.6 to 22 percent of the samples taken during the period from 1998 to 2002, but the national standard was not exceeded in this period.[7] There are no known odor-producing substances on the proposed project site.

3.2.3 Significance Thresholds

A project's air quality impacts can be separated into short-term impacts due to construction and long-term permanent impacts from project operations. Both types of impacts may occur on a local or regional scale. The potential for the proposed project to result in impacts related to air quality was analyzed in relation to the five potential issues identified for consideration, as contained in Appendix G of the State CEQA Guidelines:

- Conflicts with or obstruct the implementation of the applicable air quality plan
- Violates any air quality standard or contribute substantially to an existing or projected air quality violation
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including release in emissions that exceed quantitative thresholds for ozone precursor)
- Exposes sensitive receptors to substantial pollutant concentrations
- Creates objectionable odors affecting a substantial number of people

Ambient air standards are established to protect the average person from health effects associated with air pollution. The standards include an "adequate margin of safety." However, some people are particularly sensitive to some pollutants. These sensitive people include the elderly, children, and persons with respiratory illnesses or impaired lung function because of other illnesses. Facilities and structures where these sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses considered to be sensitive receptors are long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities.

The County of Los Angeles relies on significance thresholds recommended by the SCAQMD in its CEQA Air Quality Handbook, as revised in November 1993 and approved by the SCAQMD's Board of Directors. The SCAQMD's emission thresholds apply to all federally regulated air

[7] California Air Resources Board. 2003. "Air Quality Data Statistics, Air Quality Summaries." Available at: http://www.arb.ca.gov/adam/welcome.html

pollutants except lead, which is not exceeded in the Basin (Table 3.2.3-1, *Emission Thresholds of Significance*).

The SCAQMD is currently in the process of preparing a new air quality handbook, AQMD Air Quality Analysis Guidance Handbook. Chapters 2, 3, and 4 related to air quality background information and the roles of regulatory agencies are available online at SCAQMD's Web site. Other chapters will be posted there as they become available. The chapters completed to date make no change in significance thresholds or analysis methodology.

TABLE 3.2.3-1
EMISSION THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction		Operations
	pounds/day	tons/quarter	pounds/day
Carbon monoxide (CO)	550	24.75	550
Sulfur oxides (SO_x)	150	6.75	150
Particulate matter (PM_{10})	150	6.75	150
Nitrogen oxides (NO_x)	100	2.5	55
Volatile organic compounds (VOCs)	75	2.5	55

SOURCE: South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Contact: 21865 Copley Drive, Diamond Bar, CA 91765.

CO concentrations in an area that exceeds national or state standards are considered significant if the increase exceeds 1 ppm averaged over one hour, or 0.45 ppm averaged over eight hours.

3.2.4 Impact Analysis

This section analyzes the potential for significant impacts to air quality that would occur from implementation of the proposed project. Air quality impacts of a project generally fall into four major categories:

- *Construction Impacts*—temporary impacts, including airborne dust from grading, demolition, and dirt hauling; and gaseous emissions from heavy equipment, delivery and dirt-hauling trucks, employee vehicles, and paints and coatings. Construction emissions vary substantially from day to day, depending on the level of construction phase and weather conditions.

- *Operational Regional Impacts*—primarily gaseous emissions from natural gas and electricity usage and vehicles traveling to and from a project site.

- *Operational Local Impacts*—increases in pollutant concentrations, primarily carbon monoxide, resulting from traffic increases in the immediate vicinity of a project, as well as any toxic and odor emissions generated on site.

- *Cumulative Impacts*—air quality changes resulting from the incremental impact of the project when added to other projects in the vicinity.

Construction Impacts

The proposed project is expected to result in significant impacts to air quality during construction due to exceedances of the SCAQMD thresholds for CO, NOx, and reactive organic gas (ROG) emissions. The proposed project is anticipated to be developed in phases, based on demand and available funding as described in Section 2.4.8, Construction Scenarios, of this EIR. The timeline for construction of the different buildings at the site will result in the likelihood of overlapping construction activities.

Potential emission estimates from construction activities are based on emission factors and construction scenario information for development at the site. The total amount of construction, including duration and level of construction activity occurring at the site, would influence the estimated construction emissions and resulting potential impacts. The emission forecasts are therefore based on conservative assumptions about the construction scenario, with a large amount of construction activity occurring in a relatively short time frame. In addition, worker commute trips will vary throughout the construction period. Estimates included in this analysis include the highest potential worker commute trips. Due to the conservative nature of these assumptions, actual emissions from the individual construction projects would most likely be less than the estimates forecasted.

Construction emissions are expected to result from the following activities:

- Demolition of existing structures
- Site grading
- Soil removal
- Delivery and hauling of construction materials and equipment
- Fuel combustion by on-site construction equipment
- Construction worker commute trips
- Application of architectural coatings
- Asphalt operations

The proposed project shall include the demolition of two structures: the existing 86-space parking structure at the Miller Children's Hospital (MCH) to accommodate construction of the inpatient tower and the wood-framed WIC Building to accommodate the central plant building. Construction of surface parking areas Q, R, S, and T shall require the demolition of 14 residential structures. Dimensions for the structures were estimated from the proposed project site plan. Demolition of the structures shall be preceded by asbestos abatement, as necessary. The contractor shall comply with requirements of SCAQMD Rule 1403 regarding asbestos control during demolition. This rule ensures that if there is any asbestos present in the buildings scheduled for demolition, it is removed and encapsulated prior to demolition so that no asbestos fibers are released. The SCAQMD CEQA Air Quality Handbook states that asbestos emissions from a project are fully mitigated and do not present a significant impact when the project is in compliance with Rule 1403. In addition, should any contamination be found to be present in the soils in the area exposed after demolition, construction shall stop and appropriate health and safety procedures and agency coordination shall be undertaken prior to continuing work on site.

Estimates of construction work for the proposed project indicate a maximum of 16 acres of disturbance area within the proposed project site. In addition, potentially contaminated soil in the former ravine and around the proposed project site must be removed prior to construction. Fugitive

dust emissions from soil handling during remediation were estimated using the Compilation of Air Pollution Emissions Factors, AP-42.[8] Potential volatile organic compound (VOC) emissions from the removal of VOC-contaminated soil were estimated using the assumption that 50 percent of VOCs in the soil would be released during the excavation and stockpiling process, prior to removal from the site for disposal. A conservative estimate of 57.8 ppm VOCs in the soil was used, which represents the sum of the maximum levels of VOCs found in the soil boring at the proposed project site, as evaluated by SCS Engineers.

Maximum potential air quality impacts were determined by calculating emissions using a worst-case daily construction scenario for each phase. The analysis also considered the potential overlap of construction activities of different projects at the site. Equipment mixes and amount of activity for construction for each phase and building were calculated using the phasing schedule and equipment list provided for each element of the proposed project in Section 2.4.8, Construction Scenarios, of this EIR. Maximum daily construction emissions for each building and each phase are presented in Table 3.2.4-1, *Project-Related Maximum Daily Regional Construction Emissions before Mitigation*.

TABLE 3.2.4-1
PROJECT-RELATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS BEFORE MITIGATION[1]

	CO (lbs/day)	SO_x (lbs/day)	PM_{10}[2] (lbs/day)	NO_x (lbs/day)	ROG (lbs/day)
TCI Phase I	327.47	0.03	29.87	338.06	161.1
MCH utility trench	99.14	0	9.9	105.23	13.44
Roadway realignment	216.84	0.43	49.67	224.71	28.51
Parking structure	361.95	0.23	35.03	344.21	46.3
MCH inpatient tower Phase I	594	0.13	35.34	550.33	162.05
MCH outpatient building	589.52	0.17	36.35	578.85	150.63
MCH central plant building	90.59	0.01	8.95	84.71	11.62
TCI Phase II	230.81	0	25.48	170.78	92.55
MCH link building	230.76	0.01	10.53	170.38	58.27
MCH inpatient tower Phase II	432.95	0.02	12.69	313.15	119.04
Worst-case daily emissions[3]	1758.25	0.47	86.94	1758.21	352.21
SCAQMD thresholds	550	150	150	100	75
Significant?	Yes	No	No	Yes	Yes

NOTES:
[1] Maximum daily emissions are the maximum emissions of each pollutant from any stage (i.e., demolition, soil excavation, site grading, or building construction) of the construction activities.
[2] PM_{10} is the total of PM_{10} dust and PM_{10} exhaust.
[3] Worst-case daily emissions are based on estimated emissions from July 2006, when maximum daily emissions from grading for the central plant building and building construction of TCI Phase I, MCH inpatient tower Phase I, MCH utility trench, MCH outpatient building, and the parking structure have the potential to occur simultaneously.

Pollutant emissions were estimated using CARB's URBEMIS2002 model, a methodology approved by the SCAQMD. The URBEMIS2002 model separates construction emissions into three phases: (1) demolition, (2) site grading, and (3) building construction. Demolition emissions include demolition fugitive dust, on-road emissions from truck trips for hauling debris, off-road emissions from equipment, and worker commute trips. Site grading emissions include fugitive dust, on-road

[8] U.S. Environmental Protection Agency. 1973. "Compilation of Air Pollution Emissions Factors. AP-42." Available at: http://www.epa.gov/ttn/chief/ap42/index.html

emissions from truck trips for hauling soil, off-road emissions from equipment, and worker commute trips. Building construction emissions are subdivided into building construction (i.e., equipment and worker commute), application of architectural coatings (i.e., architectural emission off-gassing and worker commute), and asphalt (i.e., asphalt off-gassing, equipment, truck trips, and worker commute). Equipment exhaust emissions were determined using the URBEMIS2002 default values for horsepower, load factors, and working schedule (i.e., 8 hours per day, 22 days per month). The URBEMIS2002 User's Manual[9] provides information on construction emission estimation and default assumptions. URBEMIS2002 modeling outputs are provided in Appendix C.

Concurrent construction and operation emissions would likely occur during later stages of the proposed project. Construction of the Todd Cancer Institute (TCI) Phase II and the MCH link building would occur after the earlier stages of construction are complete and operational activities have commenced. Therefore, emission of concurrent construction and operation activities were evaluated in accordance with the construction phasing scenario described in Section 2.4.8, Construction Scenario, of this EIR. Expected emissions would likely exceed SCAQMD significance thresholds for CO, NOx, and ROG, therefore requiring mitigation. The significance of these emissions is driven by the high level of short-term emissions from construction activities. Emissions would be expected to be less than significant for PM_{10} and SO_2 (Table 3.2.4-2, *Concurrent Construction and Operational Emissions in 2010*).

TABLE 3.2.4-2
CONCURRENT CONSTRUCTION AND OPERATIONAL EMISSIONS IN 2010

	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	NO_x (lbs/day)	ROG (lbs/day)
Net operation emissions[1]	369.26	2.32	50.24	66.08	30.66
Construction emissions[2]	453.04	0.00	12.95	340.46	150.13
Total combined emissions	822.30	2.32	63.19	406.54	180.79
SCAQMD construction significance threshold	550	150	150	100	75
Significant?	Yes	No	No	Yes	Yes
SCAQMD operation significance threshold	550	150	150	55	55
Significant?	Yes	No	No	Yes	Yes

NOTES:
[1] The estimated emissions represent year 2010 vehicle trips, energy consumption, and area source emissions. Emissions of NO_x, ROG, and CO are reduced at build-out due to the expected reduction in vehicle emissions into the future, as modeled by EMFAC2002.
[2] The estimated emissions represent the maximum daily emissions from building construction of TCI Phase II and the MCH link building for the year 2011.

Air Toxics

Construction equipment emissions during grading and construction activities at the proposed project site would include emissions of the toxic air contaminant diesel particulate matter. As mentioned above, the results of the California Multiple Air Toxics Exposure Study (MATESII) conducted by the SCAQMD indicated that air toxics in the City of Long Beach area present a carcinogenic risk of approximately 1,100 to 1,200 in a million, with approximately 90 percent of

[9] Jones & Stokes. 2003. *Software User's Guide: URBEMIS 2002 for Windows with Enhanced Construction Module*. Prepared by: Jones & Stokes Associates, 2600 V Street, Sacramento, CA 95818. Prepared for: Yolo-Solano Air Quality Management District, 1947 Galileo Court, Suite 103, Davis, CA 95616.

the risk from mobile sources (i.e., on-road vehicles), of which 70 percent is from diesel particulate. Risks associated with diesel particulate from the proposed project are qualitatively evaluated in the risk assessment (Appendix C).

Odors

Potential sources of odors during the construction phase include the use of architectural coating and solvents. Under SCAQMD Rule 1113, VOCs in architectural coatings and solvents are limited. Coating and solvents used during the proposed project must comply with these regulatory requirements, thereby limiting the potential for objectionable odors. Therefore, no odor impacts would be expected.

Operational Impacts

The proposed project would be anticipated to have significant impacts to air quality during operations due to the exceedance of the SCAQMD threshold for NO_x. Operational air emissions at the proposed project site are likely to result from both stationary sources (i.e., natural gas, landscaping, and consumer products) and mobile sources. Emissions from these sources were modeled using URBEMIS2002. Mobile source emissions in URBEMIS2002 are based on the EMFAC2002 Version 2.2 emission inventory model, which projects emission estimates based the expected vehicle fleet mix for the estimated start date of the project, the vehicle speed and distance assumptions, and temperature conditions. Trip generation rates were determined using the values included in URBEMIS2002, based on the land uses to be developed at the proposed project site. Vehicle speeds, distances, and fleet mix were based on the default values in the URBEMIS2002 model (Table 3.2.4-3, *URBEMIS2002 Input Parameters for Mobile Source Emissions*). Mobile source emissions were calculated using the default values in the model (Appendix C).

TABLE 3.2.4-3
URBEMIS2002 INPUT PARAMETERS FOR MOBILE SOURCE EMISSIONS

Parameter	Value	Unit	Comment
Air Basin	South Coast		Proposed project is located in the City of Long Beach
Analysis Year	2015		Projected build-out year
Temperature	60, 75, and 85	°F	Recommended temperatures in Table A9-5-I of the SCAQMD CEQA Air Quality Handbook for CO, NO_x, and ROG emissions, respectively
Land Use Categories	Hospital = 423,920	Sq. ft.	Hospital:[1] TCI Phase I = 83,630 TCI Phase II = 42,300 MCH inpatient tower Phase I = 124,500 MCH inpatient tower Phase II = 73,500 MCH link building = 20,000 MCH outpatient building = 80,000
Vehicle Fleet Mix	Light Auto = 56 Light Truck (<3750) = 15.3 Light Truck (3751 – 5750) = 16.4 Med Truck (5751 – 8500) = 7.3 Light-Heavy (8501 – 10000) = 1.1 Light-Heavy (10001 – 14000) = 0.3 Med-Heavy (14001 – 33000) = 1.0 Heavy-Heavy (33001 – 60000) = 0.8 Line Haul (>60000) = 0 Urban Bus = 0.2 Motorcycle = 1.6 School Bus = 0 Motor Home = 0		Default values, with the exception of School Bus and Motor Home trips redistributed to Light Auto, which is more likely for the proposed project
All other parameters	Default values		Default values for Basin in URBEMIS2002

NOTE:
[1] Hospital land use is defined as any institution where medical or surgical care is given to nonambulatory and ambulatory patients, and overnight accommodations are provided.

The Long Beach Memorial Medical Center (LBMMC) and MCH are served by the Long Beach Transit Services on Willow Street, Atlantic Avenue, and Long Beach Boulevard. The Willow Metro Rail Station is located on the corner of Willow Street and Long Beach Boulevard. Easy access to these transit and rail services would have the potential to reduce patient and worker commute trips to and from the site.

On-site stationary sources would include emergency diesel generators in the central plant building, which would be used for emergency back-up power. Two diesel generators would be installed at the central plant building, with a third planned for installation during Phase II of the MCH inpatient tower. These stationary sources would require permits from the SCAQMD pursuant to Regulation II, Rules 201, 202, and 203. Emission increases related to those sources would also be subject to Regulation XIII, New Source Review, which requires the utilization of best available control

technology (BACT) to minimize emissions of CO, NO_x, VOC, and PM_{10}. The generators would be used in an emergency back-up capacity and, unless a power failure occurs, are not expected to be operated for greater than 1 hour per month for routine maintenance and testing. Emergency equipment is exempt from modeling and offset requirements under SCAQMD Rule 1304, and would not require a health risk assessment under Rule 1401. Because the emergency generators would be under permit with the SCAQMD and would meet BACT requirements, any potential air quality impacts from these sources are expected to be less than significant and would not require further mitigation.

Emissions from stationary and mobile sources during project operation were summed to determine total daily emissions. These emissions were then compared to SCAQMD significance thresholds (Table 3.2.4-4, *Project-Related Maximum Operational Emissions at Build-Out*). Operational emissions at build-out were determined to be less than significant for CO, SO_x, PM_{10}, and ROG. The potential daily maximum NO_x emissions at build-out were determined to be greater than the SCAQMD significance threshold, and thus would require mitigation.

As identified in the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural operations, wastewater treatment facilities, food-processing plants, chemical manufacturing, composting, refineries, landfills, dairies, and fiberglass operations. The proposed project would not include any land uses identified as being associated with odors. Therefore, project operation would not be expected to create adverse odors and would not be expected to result in significant impacts requiring mitigation.

TABLE 3.2.4-4
PROJECT-RELATED MAXIMUM OPERATIONAL EMISSIONS AT BUILD-OUT

	CO (lbs/day)	SO_x (lbs/day)	PM_{10} (lbs/day)	NO_x (lbs/day)	ROG (lbs/day)
Area sources	1.71	0.00	0.01	2.83	0.29
Energy consumption	5.04	3.02	1.01	28.98	0.25
Operational (vehicle) sources	279.20	0.36	64.12	32.28	25.27
Total emissions at build-out	285.95	3.38	65.14	64.09	25.81
SCAQMD thresholds	500	150	150	55	55
Significant?	No	No	No	Yes	No

Sensitive Receptors

The proposed project improvements would be located on the LBMMC campus (Campus), near existing inpatient and outpatient medical facilities. Land uses identified to be sensitive receptors by SCAQMD in the CEQA Handbook include long-term health care facilities, rehabilitation centers, and convalescent centers. People with compromised immune systems may be exposed to emissions released from the proposed project. The greatest potential for exposure of sensitive receptors to air contaminants would occur during the temporary construction phase, when potentially contaminated soil would be uncovered and equipment would be used for site grading, materials delivery, and building construction.

Exposure to potential emissions would vary substantially from day to day, depending on the amount of work being conducted, the weather conditions, and the location and residence time of the receptors. The construction phase emissions estimated in this analysis are based on conservative estimates and worst-case conditions, with maximum levels of construction activity

occurring simultaneously within a short period of time. Maximum potential on-site emissions are expected to occur during the potentially overlapping construction schedules for the MCH inpatient tower, utility trench, and central plant; MCH outpatient building; and the parking facilities in the southwestern portion of the Campus. Not all construction activity would occur in the immediate vicinity of sensitive receptors located at the existing inpatient facilities (LBMMC and MCH), which would limit potential acute exposures. The closest proposed project element would be the construction of the MCH inpatient tower, which is estimated to be approximately 413 feet from the center of the main LBMMC building.

The land uses identified as sensitive receptors by SCAQMD include long-term care facilities, where patients have greater potential for impacts due to prolonged exposures. Potential exposures for patients at LBMMC are expected to be acute because many of the patients visit the facility for outpatient services. Inpatient stays are conservatively estimated at 4.9 days, which is the national average length of hospital stays in the United States based on statistics provided by the Center for Disease Control.[10] In both cases, the duration of stay is much less than would be expected at a long-term care facility.

Off-site resident receptors are estimated at 5,500 feet from the MCH inpatient tower. At this distance, the construction emissions are expected to be greatly dispersed.

The risk assessment developed for the proposed project considered potential carcinogenic and noncarcinogenic risks from exposed contaminated soil for adult and child patient receptors both within the existing main LBMMC building and the MCH and TCI project buildings after the expansion. All risks were determined to be less than significant. Therefore, due to the temporary nature of these emissions and the short duration of potential exposures, sensitive receptors would not be expected to be significantly affected by the proposed project. In addition, although adult and child off-site residents do have a longer potential duration of exposure, the distance from the site would be expected to minimize potential impacts to below the level of significance.

3.2.5 Cumulative Impacts

The SCAQMD Air Quality Handbook provides guidance for conducting a cumulative impact analysis. One approach provided in the handbook suggests that analysis could be performed by analyzing whether the rate of growth in vehicle miles traveled or trips is consistent with the rate of population or household growth. To assess this indicator, population growth for the proposed project should be compared to the population projection for the build-out year. As documented in the population and housing section of the Initial Study (Appendix B, *Initial Study, NOP, and Comment Letters*), the proposed project is consistent with SCAG and City of Long Beach growth projections of 6 to 9 percent within the planning horizon; therefore, the proposed project is not expected to be growth inducing, but rather growth accommodating and would provide essential services for the anticipated population growth in the area. Development of the proposed project is consistent with the population growth in the area and is designed to serve the health care needs of the growing City of Long Beach population. Furthermore, as operational emissions from the proposed project are individually insignificant and would be consistent with land use plans and zoning, cumulative emissions are considered to be accounted for in the forecasting for the AQMP. Therefore, under this analysis, the proposed project would not be expected to result in a cumulatively significant impact to air quality.

[10] Centers for Disease Control, National Center for Health Statistics. 2002. *Hospital Utilization in Non-Federal Short Stay Hospitals*. Available at: http://www.cdc.gov/nchs/fastats/hospital.htm

3.2.6 Mitigation Measures

The following air quality mitigation measures are provided to reduce the potential air quality impacts from both the construction and operational phases of the proposed project.

Measure Air-1

As part of the request for the demolition permit for the 86-car parking structure, the WIC Building, and existing structures located at the proposed location of surface parking areas Q, R, S, and T, the Long Beach Memorial Medical Center shall demonstrate that asbestos-containing materials in these structures have been identified and adequately abated, or that the contractor has been informed of the need to identify and abate asbestos-containing materials consistent with the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1403. Specifically, all asbestos-containing material shall be removed and encapsulated prior to demolition, such that no asbestos fibers are released.

Measure Air-2

Prior to advertising for construction bids for each structural element of the proposed project, the plans and specifications shall be reviewed by the lead agency to ensure that the requirement to comply with South Coast Air Quality Management District (SCAQMD) regulations, including Rule 1403, Rule 402, and Rule 403, is included. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities. The specifications shall require the construction contractor to present a Rule 402/Rule 403 compliance plan at the construction start-up meeting, prior to demolition, construction staging, or grading. The Rule 402/Rule 403 compliance plan shall include mitigation measures Air-2 through Air-12, or comparable measures to prevent nuisance dust and visible emissions. The construction activities related to the proposed project shall comply with SCAQMD regulations, including Rule 1403, Rule 402, and Rule 403. Rule 402 specifies that there shall be no dust impacts off site that would be sufficient to cause a nuisance. Rule 403 specifies that construction activities shall restrict visible emissions from occurring. The contractor's Rule 402/Rule 403 compliance plan shall be subject to approval by the City of Long Beach. Weekly inspections shall be undertaken by the City of Long Beach to ensure conformance with the approved Rule 402/Rule 403 compliance plan.

Measure Air-3

Soil moistening shall be required to treat exposed soil during construction of each element of the proposed project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to advertising for construction bids for each element of the proposed project, the plans and specifications shall be reviewed by the lead agency to ensure that the requirement for the construction contractor to ensure that soil is moistened prior to grading and that soil moisture content is maintained at a minimum of 12 percent for all grading activities is included. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities. The

construction contractor shall demonstrate compliance with this measure through the submission of weekly monitoring reports to the lead agency. At a minimum, active operations shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type that is part of the active operation.

Measure Air-4

Soil moistening shall be required to treat grading areas during construction of each element of the proposed project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to advertising for construction bids for each element of the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to ensure that soil shall be moistened not more than 15 minutes prior to the daily commencement of soil-moving activities and three times a day, or four times a day under windy conditions, in order to maintain a soil moisture content of 12 percent. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-5

Application of water or a chemical stabilizer shall be required to treat grading areas during construction of each element of the proposed project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. Prior to advertising for construction bids for each element of the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to apply water or a chemical stabilizer to maintain a stabilized surface on the last day of active operations prior to a weekend or holiday. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-6

Moistening or covering of excavated soil piles shall be required to treat grading areas during construction of each element of the proposed project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to advertising for construction bids for the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to ensure that excavated soil piles are watered hourly for the duration of construction or covered with temporary coverings. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-7

Discontinuing grading activities during windy conditions shall be required to treat grading areas during construction of each element of the proposed project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to advertising for construction bids for each element of the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to cease grading during periods when winds exceed 25 miles per hour. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-8

Moistening excavated soil prior to loading on trucks shall be required at all grading areas during construction of each element of the proposed project to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in critical pollutants. Prior to advertising for construction bids for the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to moisten excavated soil prior to loading on trucks. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-9

Transport of soils to and from the proposed project site for each element of the proposed project shall be conducted in a manner that avoids fugitive dust emissions, ensures compliance with current air quality standards, and avoids contributions to cumulative increases in criteria pollutants. Prior to advertising for construction bids for each element of the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to cover all loads of dirt leaving the site or to leave sufficient freeboard capacity in the truck to prevent fugitive dust emissions en route to the disposal site. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-10

Washing of wheels leaving the construction site during construction of each element of the proposed project shall be required to avoid fugitive dust emissions, ensure compliance with current air quality standards, and avoid contributions to cumulative increases in criteria pollutants. The lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to clean adjacent streets of tracked

dirt at the end of each workday or install on-site wheel-washing facilities. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-11

Turning off engines and equipment when not in use shall be required to reduce vehicular emissions during construction of each element of the proposed project. Prior to advertising for construction bids for the proposed project, the lead agency shall ensure that the plans and specifications for each element of the proposed project include the requirement for the construction contractor to reduce idling emissions by turning off equipment and truck engines when not in use for five minutes or more. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-12

Concurrent use of multiple pieces of heavy equipment beyond the levels described in the construction scenarios shall be prohibited to the maximum extent feasible to reduce vehicular emissions. Prior to advertising for construction bids for each element of the proposed project, the lead agency shall ensure that the plans and specifications include the requirement to minimize to the maximum extent practicable the concurrent use of multiple pieces of heavy equipment for each element of the proposed project during construction activities. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

Measure Air-13

Carpooling and use of public transportation shall be encouraged to reduce vehicular emissions. The lead agency shall ensure that the plans and specifications include the requirement for the construction contractor to encourage construction workers to use public transit and carpools. The Office of Statewide Health Planning and Development shall be the lead agency for the Miller Children's Hospital (MCH) pediatric inpatient tower Phases I and II, central plant building, and utility trench. The City of Long Beach shall be the lead agency for the Todd Cancer Institute Phases I and II, MCH pediatric outpatient building, MCH link building, roadway realignment, and parking facilities.

3.2.7 Level of Significance after Mitigation

Implementation of mitigation measures Air-1 through Air-13 would reduce potential impacts on air quality from the construction and operation of the proposed project to the maximum extent feasible, in accordance with the guidance provided by the SCAQMD. However, impacts to air quality from construction emissions of NO_x would remain significant.

3.3 CULTURAL RESOURCES

As a result of the analysis undertaken in the Initial Study for the Long Beach Memorial Medical Center Expansion (proposed project),[1] the City of Long Beach (City) determined that the proposed project may result in environmental impacts to cultural resources. Therefore, this issue is being carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to cultural resources and to identify potential alternatives.

The analysis of cultural resources consists of a summary of the regulatory framework that guides the decision-making process, a description of the existing conditions at the proposed project area, thresholds for determining if the proposed project would result in significant impacts, anticipated impacts (direct, indirect, and cumulative), mitigation measures, and level of significance after mitigation. The cultural resources at the proposed project site were evaluated with regard to a query of the South Central Coastal Information Center (SCCIC), the Natural History Museum of Los Angeles County (NHMLAC), the Native American Heritage Commission (NAHC), the City of Long Beach Web site, and the County of Los Angeles Office of the Assessor's Online Parcel Viewer (Assessor). Published and unpublished literature was reviewed. In addition, a Phase I Pedestrian Survey of the proposed project was conducted to determine if cultural resources are present. The potential for impacts to cultural resources have been analyzed in accordance with the data compiled by Sapphos Environmental, Inc., which included the archival and record search and a pedestrian survey of the proposed project area conducted on October 8, 2004, and October 14, 2004.

3.3.1 Regulatory Framework

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, declares a national policy of historic preservation and encourages such preservation. It established an Advisory Council on Historic Preservation (ACHP) and provided procedures for the federal agency to follow if a proposal could affect a property that is included or eligible for inclusion in the National Register of Historic Places (NRHP). The ACHP developed procedure 36 CFR Part 800, which must be followed on any federal project of action.

National Register of Historic Places

The NRHP is the official list of properties recognized for their significance and deemed worthy of preservation. The NRHP Criteria for Evaluation offers a guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment. As established in the NHPA of 1966, to be listed in the NRHP, or to be determined eligible for listing, properties must meet certain criteria for historic or cultural significance. Qualities of significance may be found in aspects of American history, architecture (interpreted in the broadest sense to include landscape architecture and planning), archaeology, engineering, and culture.

[1] City of Long Beach, Department of Planning and Building. 20 August 2004. *Initial Study for the Long Beach Memorial Medical Center Expansion Project*. Prepared by: Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A — It is associated with events that have made a significant contribution to the broad patterns of our history

Criterion B — It is associated with the lives of persons significant in our past

Criterion C — It embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction

Criterion D — It has yielded, or may be likely to yield, information important in prehistory or history.

To be eligible, qualities of integrity must also be evident in the resource, measured by the degree to which it retains its historic location, design, setting, materials, workmanship, feeling, and association. In general, the resource must be 50 years of age to be considered for the NRHP, but there are exceptions and overriding considerations to this criterion.

Listing in the NRHP does not, in and of itself, provide protection for a historic resource. The primary effect of NRHP listing for the owners of historic buildings is the availability of financial and tax incentives. In addition, for projects that receive federal funding, the Section 106 process must be completed.

NRHP: Eligibility of Districts

NRHP Bulletin 15 states the following:

> A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.[2]

A district derives its importance from being a unified entity:

> The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties.[3]

The district must be both an identifiable entity and significant under the NRHP criteria. Resources within districts are further divided into two categories: contributing and noncontributing.

[2] National Park Service. 1998. *National Register Bulletin, 15: How to Apply the National Register Criteria for Evaluation.* Washington, DC: National Park Service. Available at: http://www.cr.nps.gov\nr\publications\bulletins\nrb15\

[3] National Park Service. 1998. *National Register Bulletin, 15: How to Apply the National Register Criteria for Evaluation.* Washington D.C.: National Park Service. Available at: http://www.cr.nps.gov\nr\publications\bulletins\nrb15\

There are some special considerations in assessing the integrity of a potential NRHP district:

> For a district to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity even if they are individually undistinguished. In addition, the relationships among the district's components must be substantially unchanged since the period of significance. . . . Properties eligible under Criteria A, B, and C must not only retain their essential physical features, but the features must be visible enough to convey their significance.[4]

Evaluation of Resources Less than 50 Years Old

The NRHP guidelines allow for buildings less than 50 years old to be considered under Criteria Consideration G, which states that "a property (which has achieved) significance within the past fifty years is eligible if it is of exceptional importance."[5] The explanation of the guideline is as follows:

> Fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance. This consideration guards against the listing of properties of passing contemporary interest and ensures that the NRHP is a list of truly historic places.[6]

It has been determined that all previously identified historic archaeological sites that occur on site are not eligible for inclusion under the NRHP.

Native American Graves Protection & Repatriation Act of 1990

The Native American Graves Protection & Repatriation Act of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency, and to provide a summary to any Native American tribe claiming affiliation.

State

California Environmental Quality Act, §21084.1: "Historical Resource; Substantial Adverse Change"[7]

For the purposes of this section, a historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR). Historical resources as

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[4] National Park Service. 1998. *National Register Bulletin, 15: How to Apply the National Register Criteria for Evaluation.* Washington D.C.: National Park Service. Available at: http://www.cr.nps.gov\nr\publications\bulletins\nrb15\

[5] National Park Service. 1998. *National Register Bulletin, 15: How to Apply the National Register Criteria for Evaluation.* Washington D.C.: National Park Service. Available at: http://www.cr.nps.gov\nr\publications\bulletins\nrb15\

[6] National Park Service. 1998. *National Register Bulletin, 15: How to Apply the National Register Criteria for Evaluation.* Washington D.C.: National Park Service. Available at: http://www.cr.nps.gov\nr\publications\bulletins\nrb15\

[7] California Resources Agency. 11 December 2003. California Environmental Quality Act, Chapter 2.6, §21084.1: "Historical Resource; Substantial Adverse Change." Available at: http://ceres.ca.gov/ceqa/stat/Ch_2-6.html

defined in subdivision (k) of Section 4020.1, and included as such in a local register**,** or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the CRHR, not included in a local register, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 shall not preclude a lead agency from determining whether the resource may be a historical resource.

California Environmental Quality Act, §15064.5: "Determining the Significance of Impacts to Archeological and Historical Resources." [8]

For this purpose of this section, a resource shall be considered to be historically significant if it meets the criteria for listing on the CRHR (Public Resources Code §5024.1, Title 14 CCR, Section 4852), including the following:

- It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- It is associated with the lives of persons important in our past.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- It has yielded, or may be likely to yield, important information in prehistory or history.

An adverse effect on a cultural resource is defined as:

- A substantial adverse change in the significance of a historical resource by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings
- A change that demolishes or materially alters those physical characteristics of a historical resource that convey its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register

California Health and Safety Code, Section 7052

Section 7052 of the California Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

[8] California Resources Agency. 16 September 2004. California Environmental Quality Act, Article 5, §15064.5: "Determining the Significance of Impacts to Archeological and Historical Resources." Available at: http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html

California Penal Code, Section 622.5

Section 622.5 of the California Penal Code establishes a misdemeanor penalty for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner.

California Public Resources Code, Section 5097.5

Section 5097.5 of the California Public Resources Code establishes a misdemeanor penalty for the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

California Register of Historical Resources

In 1992, the California Legislature established the CRHR. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the California Public Resources Code (PRC), automatically includes all California properties already listed in the NRHP and those formally determined to be eligible for the NRHP (Categories 1 and 2 in the State Inventory of Historical Resources), as well as specific listings of State Historical Landmarks and State Points of Historical Interest. The CRHR may also include various other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources
- Resources that contribute to a historic district
- Resources identified as significant in historic resource surveys
- Resources with a significance rating of Category 3 through Category 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance)

A property must meet at least one of the following criteria to be eligible for inclusion in the CRHR:

- It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- It is associated with the lives of persons important in our past.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- It has yielded, or may be likely to yield, information important in prehistory or history.

Evaluation of Resources Less than 50 Years Old

The California Register follows the lead of the NRHP in utilizing the 50-year threshold. A resource is usually considered for its historical significance after it reaches the age of 50 years. This threshold is not absolute; it was chosen as a reasonable span of time after which a professional evaluation of historical value/importance can be made. It has been determined that previously identified archaeological sites that occur on site are not eligible for inclusion under the CRHR.

State Historic Resources Commission and the Office of Historic Preservation

In accordance with state law (California Public Resources Code Section 5020.4), the primary responsibility of the State Historic Resources Commissions (SHRC) is to review applications for listing historic and archaeological resources on the NRHP, the CRHR, and the California Historical Landmarks and California Points of Historical Interest registration programs.

The SHRC is also charged with the following responsibilities:

- Conduct a statewide inventory of historical resources and maintain comprehensive records of these resources.
- Develop and adopt criteria for the rehabilitation of historic structures.
- Establish policies and guidelines for a comprehensive statewide historical resources plan.
- Submit an annual report to the Director of the Department of Parks and Recreation and the State Legislature giving an account of its activities, identifying unattained goals of plans and programs, and recommending needed legislation for the support of these programs.
- Consult with and consider the recommendations of public agencies, civic groups, and citizens interested in historic preservation.
- Develop criteria and procedures based on public hearings and active public participation for the selection of projects to be funded through the National Historic Preservation Fund and other federal and state grants-in-aid programs.

The Office of Historic Preservation (OHP) is the governmental agency primarily responsible for the statewide administration of the historic preservation program in California. The chief administrative officer for the OHP is the State Historic Preservation Officer (SHPO). The SHPO is also the executive secretary of the SHRC. The mission of the OHP and the SHRC, in partnership with the people of California and governmental agencies, is to preserve and enhance California's irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enriched for present and future generations.[9]

[9] Office of Historic Preservation. 12 June 2002. "About OHP." Available at: http://ohp.parks.ca.gov/default.asp?page_id=1066

The OHP is responsible for carrying out its mission by meeting the following goals:

- Identifying, evaluating, and registering historic properties
- Ensuring compliance with federal and state regulatory obligations
- Cooperating with traditional preservation partners while building new alliances with other community organizations and public agencies
- Encouraging the adoption of economic incentives programs designed to benefit property owners
- Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness, and, most significantly, by demonstrating leadership and stewardship for historic preservation in California

Local

Southern California Association of Governments

The Southern California Association of Governments (SCAG) Growth Management Chapter (GMC) has instituted policies regarding the protection of cultural resources. SCAG GMC Policy No. 3.21 "encourages the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites."[10]

City of Long Beach Municipal Code Section 2.63

The City of Long Beach has established a Cultural Heritage Commission to review projects that may have potential impacts to historic resources. The purpose of the Cultural Heritage Commission includes the following:

- To protect, enhance, and perpetuate areas, districts, streets, places, buildings, structures, works of art, natural features, and other similar objects that are reminders of past eras, events, and persons important in local, state, or national history, or that provide significant examples of architectural styles of the past or are landmarks in the history of architecture, or that are unique and irreplaceable assets to the city and its neighborhoods, or that provide for this and future generations significant examples of the physical surroundings in which past generations lived
- To develop and maintain appropriate settings and environments for these cultural resources
- To enhance the economic and financial benefits to the city and its inhabitants by promoting the city's tourist trade and interest and thereby stimulating community business and industry

[10] Southern California Association of Governments. 2001. *SCAG Growth Management Chapter (GMC) Policy No. 3.21.* Contact: 818 West Seventh Street, 12th Floor Los Angeles, CA 90017-3435.

- To intensify the visual and aesthetic character and diversity of the city and thus enhance its identity through the preservation of varied architectural styles that reflect the city's cultural, social, economic, political, and architectural history

- To encourage public understanding and appreciation of the unique architectural and environmental heritage of the city through education programs

- To strengthen civic pride in the beauty and notable accomplishments of the city's past, and thereby to encourage community involvement in the city's future[11]

In addition, the City of Long Beach Cultural Heritage Commission established criteria for designating historic landmarks and landmark districts, procedures for designation of historic landmarks and landmark districts, procedures for administering the certificate of appropriateness, and guidelines for an appeal process regarding decisions made on behalf of an historic resource, publicly owned resources, easements and development rights, and penalties. The Cultural Heritage Commission specified the following with regard to the destruction of an historic resource:

> Any person who constructs, alters, removes or demolishes a cultural resource in violation of this chapter shall be required to restore the building, object, site, or structure to its appearance or setting prior to the violation. Any action to enforce this provision may be brought by the city or any other interested party. The civil remedy may be in addition to, and not in lieu of, any criminal prosecution and penalty and other remedy provided by law.[12]

3.3.2 Existing Conditions

Paleontological Resources

Paleontology is the study of prehistoric life forms of plant and animal fossils. Fossils of prehistoric plants and animals are often preserved in stratigraphic layers of geologic formations, thereby preserving an aspect of California prehistory that is scientifically important, since many of these species are now extinct. Fossil-bearing geologic formations can range in both thickness and depth below ground surface from a few feet to hundreds of feet. Since geologic formations are tilted and squeezed by tectonic movement (movement of the Earth's crust), it is often difficult to predict paleontologically sensitive areas.

The NHMLAC conducted a review of in-house and U.S. Geological Survey (USGS) maps at the request of Sapphos Environmental, Inc. to ascertain the potential of paleontological resources on the proposed project site. This review included all known recorded fossil localities and specimen data in the vicinity of the proposed project area. In addition, it should be noted that a review of the USGS Long Beach

[11] City of Long Beach. 11 October 2004. City of Long Beach Municipal Code, Chapter 2.63. Available at: http://www.ci.long-beach.ca.us/apps/cityclerk/lbmc/title-02/frame.htm.

[12] City of Long Beach. 21 October 2004. City of Long Beach Municipal Code, Cultural Heritage Commission, Chapter 2.63, 2.63.110: "Penalties." Available at: http://www.longbeach.gov/apps/cityclerk/lbmc/title-02/chapter-2-63.htm#P124_28773

topographic quadrangle was undertaken to identify the rock units that underlay the site.[13] The map shows that the proposed project area is within Quaternary nonmarine terrace deposits.

The paleontological records search indicated that the entire proposed project area is composed of Quaternary Alluvium with surficial deposits of older Quaternary terrace deposits. These deposits are primarily terrestrial underlain by stratum containing marine components. Vertebrate paleontological localities have not been previously recorded within the proposed project location. However, known fossil localities exist nearby that occur within a similar sedimentary deposit as occurs within the proposed project area.

The closest vertebrate fossil locality (LACM 1022) was found just east of the northern proposed project site boundary, near the intersection of Spring Street and Orange Avenue. The site produced fossilized bird specimens. Two additional vertebrate fossil localities, LACM 1021 (LACM 1932) and LACM 3245, were found farther east along Spring Street, near Cherry Avenue. LACM 1021(LACM 1932) produced a fossil mammoth, *Mammuthus,* that was recovered from an unknown depth. LACM 3245 produced an extensive fossil fish fauna consisting of seven identified fish species, *Citharichthys stigmaeus* (speckled sanddab), *Citharichthys sordidus* (Pacific sanddab), *Paralichthys californicus* (California halibut), *Parophrys vetulus* (English sole), *Lyopsetta exilis* (slender sole), *Electrona rissoi* (lanternfish), and *Lepidogobius lepidus* (bay goby), that were recovered at a depth of 37 feet. In addition, there is a strong likelihood of encountering significant terrestrial vertebrate fossils throughout the proposed project area, representing the type of fauna found at the Rancho La Brea Tar Pits or marine vertebrates from the Late Pleistocene (Quaternary) (Figure 3.3.2-1, *Areas of Paleontological and Archaeological Sensitivity*).[14]

Paleontologists consider all vertebrate fossils to be of importance. Fossils of other types, including invertebrates and plants, are also considered to be significant if they represent a new record, new species, and a most complete specimen of its kind, a rare species, or a species useful in the dating of stratigraphic information.

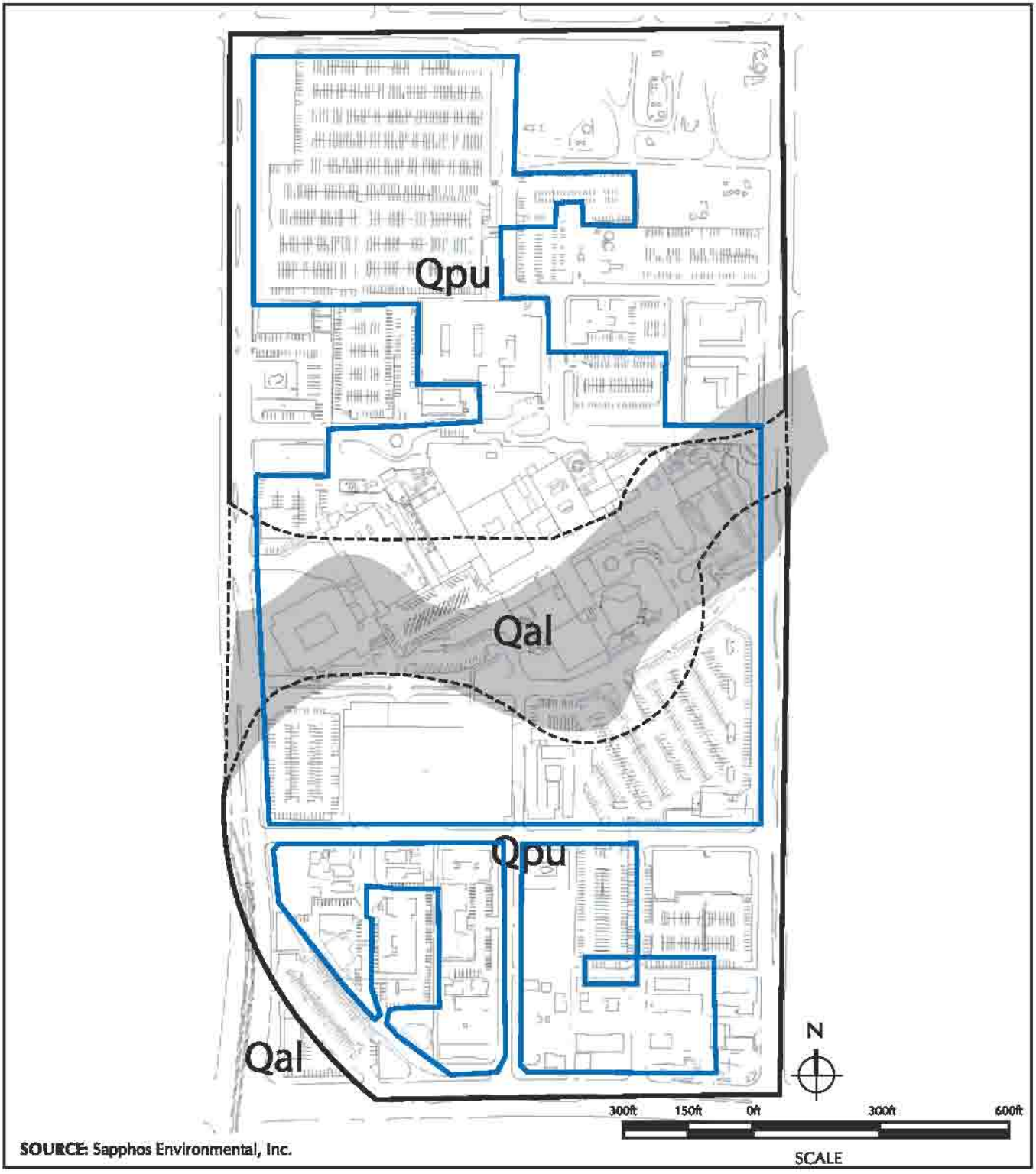
Archaeological Resources

An archaeological records check was conducted for the proposed project at the SCCIC at California State University Fullerton on July 7, 2004. This search included a review of all recorded prehistoric archaeological sites within a 0.25-mile radius of the proposed project location, as well as a review of all known relevant cultural resource survey and excavation reports. Archaeological site records are available at the SCCIC and are available for review by professional archaeologists on a need-to-know basis. Due to the sensitive nature of cultural resources, exact archaeological site locations will be maintained on file at the City of Long Beach and made available on a need-to-know basis.

The Long Beach area was home to Native American populations for approximately 11,000 years. The natural ecological environment consisted of rock outcrops, stream and river drainages, and bluffs

[13] C.W. Jennings. 1962 (Revised 1992). USGS Geologic Map of California, Long Beach Sheet (Olaf P. Jenkins Edition). Capitol Heights, MD: Williams & Heintz Map Corporation.

[14] Dr. Sam McLeod, Natural History Museum of Los Angeles County. 8 July 2004. (Letter to Ms. Laurie Solis, Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.) Subject: Paleontological Record Check.



SOURCE: Sapphos Environmental, Inc.

LEGEND

- Qal Beneath Fill
- Fill Material
- Qal — Alluvial & Coastal Deposits of Quaternary Age
- Qpu — Terrace Deposits of Quaternary Age - Resource Sensitivity Area
- LBMMC Campus Boundary

FIGURE 3.3.2-1
Areas of Paleontological and Archaeological Sensitivity

overlooking the ocean. The prehistory of the Long Beach Memorial Medical Center (LBMMC) campus is best understood in its chronological context.[15]

Prehistoric Period (Prior to 1542)

Early Man Horizon

The end of the Pleistocene Epoch, 11,000 B.C. to approximately 6,000 B.C., is known as the Early Man Horizon. Archaeological sites attributed to this horizon are composed primarily of large projectile points and scrapers (sharpened, unifacially utilized, stone implements). Available archaeological data attributed to this time period suggest that prehistoric populations focused on hunting and gathering, and moved from region to region in small nomadic groups.

Milling Stone Horizon

The Milling Stone Horizon follows the Early Man Horizon and encompasses the time period of about 6,000 B.C. to 1,000 B.C. This horizon is generally characterized by the appearance of hand stones and milling stones. Artifact assemblages from archaeological sites that date to the early part of this horizon reflect an emphasis on plant foods and foraging subsistence systems. Inland populations generally exploited grass seeds, which became the primary subsistence source. Artifact assemblages are characterized by choppers and scraper planes, and generally lack projectile points. The appearance of large projectile points in the latter portion of the Milling Stone Horizon suggests an increase in hunting activities, therefore indicating a more diverse subsistence economy.

Intermediate Horizon

The Intermediate Horizon ranging from 1,000 B.C. to A.D. 750 represents a period of transition for prehistoric Native American groups. Little is known about the people of this period, especially those occupying inland Southern California. Archaeological site assemblages possess many similar attributes of the Milling Stone Horizon. However, these sites generally contain large stemmed (or notched) projectile points and portable mortars and pestles. Mortars and pestles were used to process and consume harvested acorns. Due to the general lack of data on the subsistence system and cultural evolution of this period, the specific characteristics of the cultural behavior patterns are not well understood.

Late Prehistoric Horizon

The Late Prehistoric Horizon ranges from A.D. 750 to Spanish contact with Native American populations in A.D. 1769. This horizon reflects an increase in technological sophistication and diversity, and is characterized by the presence of small projectile points, which imply the use of bow and arrow, as opposed to spear or atlatl. In addition, site assemblages also include steatite (soapstone) bowls, asphaltum, grave goods, and elaborate shell ornaments. Utilization of bedrock milling slicks (utilization of a large rock or boulder for the grinding and processing of nuts) is prevalent throughout this horizon. In addition, an increase in hunting efficiency and widespread exploitation of acorns provided reliable and storable food resources. These innovations seem to have promoted greater

[15] William J. Wallace. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology*, *11*(3): 214–230.

sedentary behavior because they allowed people to find food and sustain themselves without having to rely on seasonal relocation.

The Gabrielino

The Gabrielino Indians of Southern California are believed to have once occupied nearly the entire basin of the Counties of Los Angeles and Orange. Although the Gabrielino Indians populated a large territory, they are in many ways considered the least known of all Southern California Native American groups. This may be attributed to their location in the Los Angles Basin, where they quickly assimilated into the mission system and European culture during the late 18th century. Early ethnographers once reported that the last individual of Gabrielino descent died about a century ago. As a result, the Gabrielino have never been granted federal recognition. Historic population estimates of the Gabrielino are difficult, but they likely ranged into the thousands. It is believed that as many as 50 to 100 villages existed at any one time during the late 18th century. Historic Spanish accounts estimated village populations to be between 50 and 200 individuals.[16]

The village of Puvungna was located approximately 5.5 miles southeast of the proposed project area. This village is of great importance to the Gabrielino people and is the center of their creation myth. The village was also the birth place of the Chinigchinich religion, which spread to other Native American groups in Southern California.[17]

The results of the record search indicated that no archaeological sites are located within the proposed project area. However, one archaeological site, 19-000839, was located on a bluff, approximately 1,500 feet northeast of the proposed project area.

- 19-000839: In December 1971, G. Fenenga of the University of California, Los Angeles recorded a 40 × 40 meter shell midden that was eroding from a ridgetop. The midden contained large amounts of shell and was covered by crude asphaltum. The site was documented northeast of the intersection of Spring Street and Atlantic Avenue, Long Beach, California.[18] J. Parker attempted to revisit the site in April 1987 during a survey of a proposed road expansion; however, the site was not found during this survey.[19]

The records search indicated that the proposed project site was not previously surveyed for the presence of archaeological resources.

[16] Lowell John Bean and Charles R. Smith. 1978. *Gabrielino, Handbook of North American Indians, Vol. 8*. Washington, DC: Smithsonian Institution. Edited by: William C. Sturtevant. Pp. 538 – 549.

[17] B.E. Johnston. 1962 (Reprinted 1964). *California's Gabrielino Indians*. Los Angeles, CA: Southwest Museum.

[18] G. Fenenga. December 1971. Archaeological Site Survey Record: CA-LAN-839 (19-000839). Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[19] J. Parker. October 1987. Update to Archaeological Site Survey Record: CA-LAN-839 (19-000839). Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

Historic Resources

A historic resources records check was conducted for the proposed project at the SCCIC at California State University Fullerton. This search included a review of all recorded historic resources within a 0.25-mile radius of the proposed project location, as well as a review of all known relevant cultural resource survey reports. Several other specific sources of information were consulted: The California State Historic Resources Inventory,[20] the NRHP,[21] the listing of California Historic Landmarks,[22] and the California Points of Historic Interest[23] were checked. The history of the proposed project location may be understood in the following chronological context.

Spanish Exploration

The consideration of historic resources begins with the arrival of the Spanish to what is now known as California. Spanish exploration of California began in 1542, when Juan Rodriguez Cabrillo and his crew sailed along the California coast. In 1579, Sir Francis Drake claimed California for England, calling it "Nova Albion." In 1602, the expedition of Sebastian Vizcaino followed the route of Cabrillo and, like Cabrillo, did not venture inland.

The Historic Period

In 1769, an expedition led by Gaspar de Portolá headed up the coast from San Diego to Monterey; the expedition arrived in what is now northern Los Angeles County on July 30, 1769. In 1784, a land grant was made to Manuel Nieto that included the land between the Santa Ana and San Gabriel Rivers, from the Coyote Hills to the ocean. This area was later divided among his heirs into five ranchos, which included the Rancho Los Alamitos and Rancho Los Cerritos, roughly the eastern and western portions of Long Beach.[24]

In 1822, Mexico declared its independence from Spain. In 1846, a lookout post was established on a hill near the center of the Pueblo de Los Angeles at the start of the Mexican War. The lookout post was named Fort Moore, after Army Captain Benjamin Moore, who had died in the Battle of San Pasqual the year before. On January 9, 1847, Commodore Stockton recaptured Los Angeles for the third and final time. Shortly after, on January 13, 1847, Captain John C. Fremont accepted the surrender of Governor Pio Pico and Commander Jose Maria Flores. The Treaty of Guadalupe Hidalgo formally annexed California to the United States in early 1848, ending the Mexican War and beginning what is referred to as the American Period in California history.[25]

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[20] Office of Historic Preservation. 2004. *California State Historic Resources Inventory*. Contact: Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001.

[21] National Park Service. 2004. *National Register of Historic Places*. Contact: National Register of Historic Places, National Park Service, 1201 Eye Street, NW, 8th Floor (MS 2280), Washington, DC 20005.

[22] Office of Historic Preservation. 2004. *California Historic Landmarks*. Contact: Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001.

[23] Office of Historic Preservation. 2004. *California Points of Historical Interest*. Contact: Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001.

[24] D.E. Kyle (ed.). 2002. *Historic Spots in California, Fifth Edition*. Stanford, CA: Stanford University Press. Pp. 151, 155–156.

[25] D.E. Kyle (ed.). 2002. *Historic Spots in California, Fifth Edition*. Stanford, CA: Stanford University Press. Pp. xiv.

The Rancho Period

The proposed project site is located within the former Spanish land grants of the Rancho Los Cerritos and Rancho Los Alamitos.

Rancho Los Cerritos and Rancho Los Alamitos were sold to the Bixby family in 1866[26] and 1878,[27] respectively. In 1880, an Englishman named William Willmore purchased 4,000 acres of Bixby Ranch to develop the Willmore City, a town with 10-, 20-, and 40-acre farm plots surrounded by trees, parks, and boulevards. Unfortunately, by 1884, Willmore's efforts had failed and his development of Willmore City was abandoned. A few years later, the Long Beach Land and Water Company acquired the land and began promoting the area as a seaside resort, and renamed it Long Beach.[28] The City of Long Beach incorporated in 1888.[29]

In 1902, the Pacific Electric trolley debuted and further contributed to the development of Long Beach as a resort and commercial center. In the years between 1902 and 1910, Long Beach was the fastest growing city in the United States. In 1911, the Port of Long Beach was established. In 1921, oil was discovered on nearby Signal Hill and contributed to a million-dollar-per-month construction boom in downtown Long Beach. The development of the Long Beach harbor continued with the construction of the U.S. Naval base in 1941.[30] During the past century, Long Beach has grown to become the fifth largest city in the State of California with a population of 481,000.[31]

Due to the development of Long Beach in the early part of the 20th century, a group of doctors saw the need for a hospital in their community as a result of population increase. In 1907, the physicians group established Seaside Hospital in a rented 13-room Victorian at Junipero Avenue and Broadway Avenue. In 1911, construction of a new building to house Seaside Hospital began. The new two-story hospital was located on 14th Street and Magnolia Avenue. The building was later expanded in 1919, 1924, and 1933. These early hospitals were located approximately 4.0 miles and 2.5 miles south of the present location of the LBMMC campus (Campus). Construction for the LBMMC began in 1958, and the main building was completed in 1960. Over the next few years, several other major buildings were added to the complex: Memorial Rehabilitation Hospital (1964), Memorial Miller Children's Hospital (1970), and Memorial Women's Hospital (1976).[32] Today, the LBMMC plays a key role in the community.

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[26] Rancho Los Cerritos Historic Site. 12 October 2004. "History." (Web site.) Available at: http://www.rancholoscerritos.org/history.html

[27] D.E. Kyle (ed.). 2002. *Historic Spots in California, Fifth Edition*. Stanford, CA: Stanford University Press. Pp. 156.

[28] G.S. Dumke. 1944. *The Boom of the Eighties in Southern California*. San Marino, CA: Huntington Library. Pp. 70–71.

[29] City of Long Beach. 12 October 2004. *The History of Long Beach*. Available at: http://cms.longbeach.gov/aboutlb/timeline.htm

[30] City of Long Beach. 12 October 2004. *The History of Long Beach*. Available at: http://cms.longbeach.gov/aboutlb/timeline.htm

[31] City of Long Beach. 18 October 2004. *The Story of the City of Long Beach: Long Beach in the Twenty-First Century*. Available at: http://www.ci.long-beach.ca.us/news/displaynews.asp?NewsID=313

[32] M.C. Todd. 1997. *Ninety Years of Healing: The Story of Long Beach Memorial Medical Center, 1907–1996*. Culver City, CA: PH Printing.

The results of the records search conducted at the SCCIC indicated that historic resources within the Campus have not been recorded. The results of this inquiry also indicated that there are no historic resources within the proposed project site currently listed on the California State Historic Resources Inventory,[33] the NRHP,[34] the listing of California Historic Landmarks,[35] or the California Points of Historic Interest[36] within 0.25 mile of the proposed project boundary.

The City of Long Beach Web site[37] was consulted on September 24, 2004, regarding historic properties that may be within 0.25 mile of the proposed project. The results of this inquiry indicated that the City of Long Beach Sunrise Boulevard Historic District (Sunrise) is located within 0.125 miles southeast of the proposed project area. The district is generally bounded by Willow Street to the north, the City of Long Beach/City of Signal Hill Corporate Boundary to the east, the Southern Pacific Railroad right-of-way to the south, and Atlantic Avenue to the west. This district consists mostly of single-family Craftsman-style bungalows constructed between 1908 and1924. Their structures range in size from large multilevel structures to modest single-story homes. The El Cortez motor court (ca. 1920s) is also located within the district.

A survey of Sunrise was also completed on October 8, 2004. This survey was conducted to determine any impacts to the known historic district that is located in the vicinity of the proposed project.

The results of the survey indicated that Sunrise is located one block east and south of the southeast corner of the proposed project area. The area between the proposed project area and Sunrise is characterized by a commercial district along Atlantic Avenue and along Willow Street. There are numerous utility poles, street signs, trees, and two-story buildings in the area. The survey determined that the LBMMC cannot be seen from street level within Sunrise.

The Assessor[38] was checked on October 11, 2004, to ascertain the number of potentially historic resources that are within the proposed project area. The results of this investigation indicated that there are a total of 11 historic resources within the proposed project area; 8 of these resources are over the 50-year threshold, and 3 are between 44 and 48 years old.

On October 8 and 14, 2004, Sapphos Environmental, Inc. staff, Ms. Laurie A. Solis and Ms. Caprice D. (Kip) Harper, conducted an historic resource architectural survey of the proposed project area. This survey was conducted to determine if any historic resources are located within the Campus.

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[33] Office of Historic Preservation. 2004. *California State Historic Resources Inventory*. Contact: Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001.

[34] National Park Service. 2004. *National Register of Historic Places*. Contact: National Register of Historic Places, National Park Service, 1201 Eye Street, NW, 8th Floor (MS 2280), Washington, DC 20005.

[35] Office of Historic Preservation. 2004. *California Historic Landmarks*. Contact: Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001.

[36] Office of Historic Preservation. 2004. *California Points of Historical Interest*. Contact: Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001.

[37] City of Long Beach. 12 October 2004. "Historic Districts." (Web site.) Available at: http://www.longbeach.gov/plan/pb/hpd/hd.asp

[38] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

Nine potentially historic structures were observed during this survey and were identified as 2701 Atlantic Avenue, 501 East 27th Street, 2666 Elm Avenue, 2679 Elm Avenue, 2685 Elm Avenue, 2690 Elm Avenue, 2622–2624 Linden Avenue, 2633 Linden Avenue, and 2624 Pasadena Avenue (Appendix D, *Cultural Background Information*). The buildings at 2666 Elm Avenue and 2690 Elm Avenue may be eligible for the NRHP (Figure 3.3.2-2, *Potential NRHP Eligible Buildings)*. Seven of the identified buildings were not found to be significant. Records from the Assessor indicated that there were two additional buildings, 300 East Spring Street and 2608 Pasadena Avenue, that are more than 50 years old; however, the buildings were not observed during either survey, and the parcels were vacant.

Potentially Eligible

- 2666 Elm Avenue The resource is a single-story rectangular Victorian house with a hipped roof; it was built in 1909.[39] The building is clad in horizontal wood siding and has a wood shingle roof. The primary entrance is on the west facade and has a small front-gabled porch. A wooden sign hangs over the door that says "Bergendahl." The primary facade is characterized by two wood-framed fixed windows on the north end and a bay window with three metal-framed windows (one sliding and two fixed) on the south end. A brick veneer covers the bottom third of the primary facade. The south facade has five windows that appear to be wood framed. The north facade has four windows—all of which have been replaced by metal-framed windows. This resource appears to be in fair condition and may be eligible for the NRHP. The construction of the resource may meet Criterion C, as it may possess distinctive characteristics of a type, period, or method of construction, or represent the work of a master. Further analysis is warranted to make this determination[40] (Figure 3.3.2-3, *2666 and 2690 Elm Avenue*).

- 2690 Elm Avenue The resource is a single-story Craftsman bungalow with a front-gabled roof; it was built ca. 1905–1930.[41] The building is clad in horizontal wood siding and has composition shingle roof. The primary entrance is on the west facade and is characterized by a front-gabled porch with square columns. The front door is in the center of the west facade and one large, fixed, multipane window is on either side of the front door. The front door appears to be original to the house and is characterized by detailed geometric woodwork. The north facade has several wood-framed double-hung windows and a side entrance with two fixed 12-pane wood-framed windows, and one 18-pane glass and wood door. The east facade has a metal-screened porch that appears to be an addition to the house. This house appears to be in good condition and may be eligible for the NRHP under Criterion C, as it may possess distinctive characteristics of a type, period, or method of construction, or represent the work of a master (Figure 3.3.2-3).[42]

[39] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[40] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2666 Elm Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[41] V. McAlester and L. McAlester. 2002. *A Field Guide to American Houses*. New York, NY: Alfred A. Knopf, Inc.

[42] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2666 Elm Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

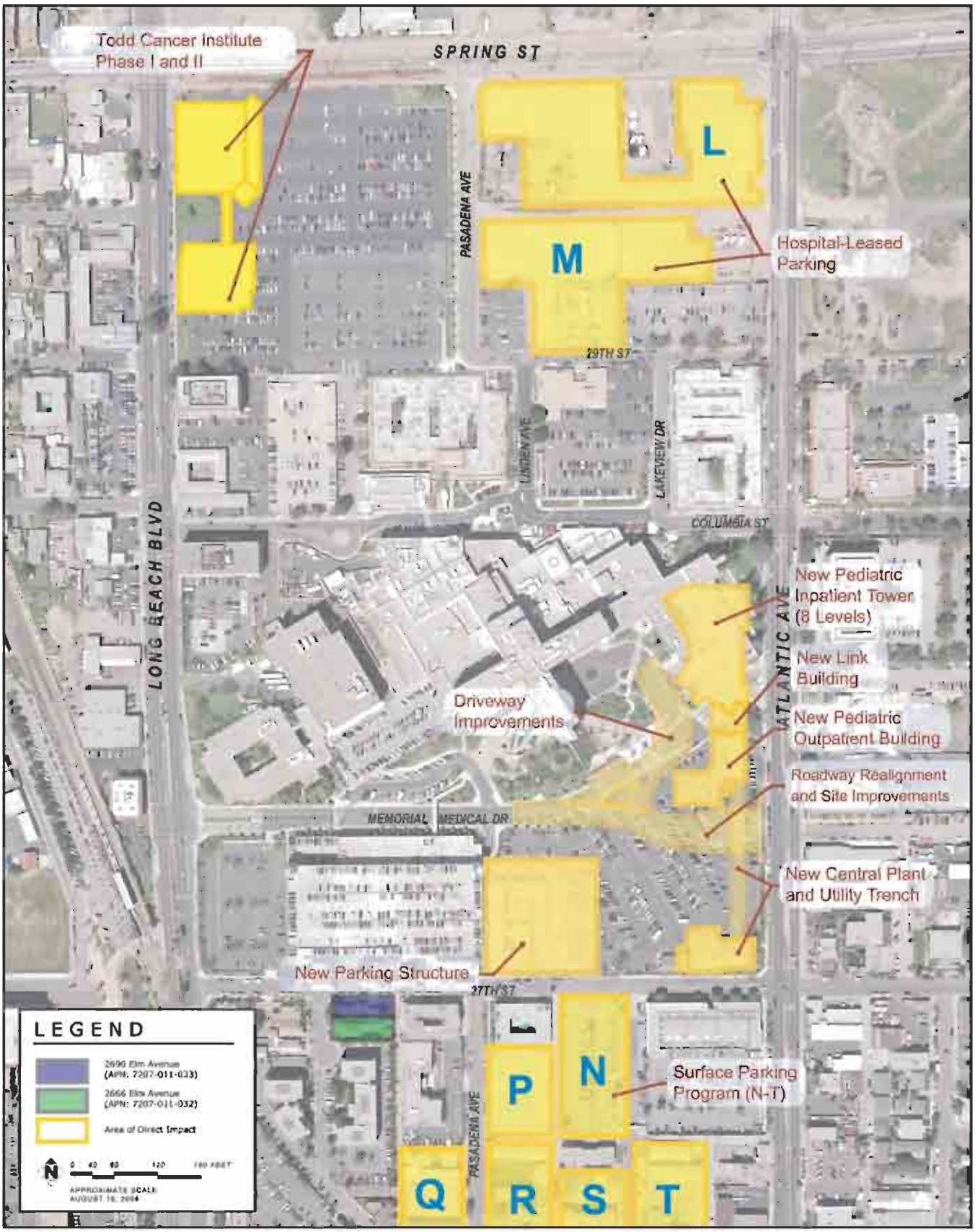

FIGURE 3.3.2-2
Potential NRHP Eligible Buildings

PHOTO 1
Photograph of 2666 Elm Avenue

PHOTO 2
Photograph of 2690 Elm Avenue

FIGURE 3.3.2-3
2666 and 2690 Elm Avenue

Not Eligible for the NRHP

- 2701 Atlantic Avenue The resource is a single-story, ranch-style building that currently houses the Memorial OB/GYN Clinic; it was built in 1959.[43] The building is situated in the southeast corner of the Campus. This resource currently does not meet the 50-year threshold for evaluation for the NRHP, and therefore, must be considered under Criteria Consideration G. This resource is not of "exceptional importance" or "a contributing part of a National Register eligible district." Therefore, it is not eligible for the NRHP under Criteria Consideration G.[44]

- 501 East 27th Street The resource consists of two L-shaped, two-story apartment buildings constructed in 1960.[45] The two buildings form a rectangular mass with an open courtyard in the center; the building is oriented to the south. This resource currently does not meet the 50-year threshold for evaluation for the NRHP and, therefore, must be considered under Criteria Consideration G. This resource is not of "exceptional importance" or "a contributing part of a National Register eligible district." Therefore, it is not eligible for the NRHP under Criteria Consideration G.[46]

- 2679 Elm Avenue The resource is a single-story house that is currently being used as a medical office for the children's clinic portion of the LBMMC. According to the Assessor, the building was constructed in 1941;[47] however, the building has the characteristics of a Craftsman-style bungalow, typically constructed between 1905 and 1930.[48] Although this house is in fair condition, it is not eligible for the NRHP under any of the significance criteria. Under Criterion A, the resource is not associated with any events that have made a significant contribution to the broad patterns of history. Under Criterion B, the resource is not associated with the lives of any significant persons, or likely to yield information important to history (Criterion D). In addition, this resource does not have distinctive characteristics of a type, period, or method of construction, or represent the work of a master (Criterion C).[49]

- 2685 Elm Avenue The resource is a single-story Craftsman bungalow that is currently being used as a medical office for the pediatric infectious diseases portion of the Miller Children's Hospital. It was constructed between 1922 and 1928.[50] Although this house

[43] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[44] C.D. Harper. 8 October 2004. *Department of Parks and Recreation 523 Primary Record for 2701 Atlantic Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[45] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[46] C.D. Harper. 8 October 2004. *Department of Parks and Recreation 523 Primary Record for 501 East 27th Street*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[47] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[48] V. McAlester and L. McAlester. 2002. *A Field Guide to American Houses*. New York, NY: Alfred A. Knopf, Inc.

[49] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2679 Elm Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[50] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

is in fair condition, it is not eligible for the NRHP under any of the significance criteria. Under Criterion A, the resource is not associated with any events that have made a significant contribution to the broad patterns of history. Under Criterion B, the resource is not associated with the lives of any significant persons, or likely to yield information important to history (Criterion D). In addition, this resource does not have distinctive characteristics of a type, period, or method of construction, or represent the work of a master (Criterion C).[51]

- 2622–2624 Linden Avenue The resource is a one-story rectangular apartment building (duplex) with a hipped roof; it was constructed in 1956.[52] The building is in fair condition. This resource currently does not meet the 50-year threshold for evaluation for the NRHP and, therefore, must be considered under Criteria Consideration G. This resource is not of "exceptional importance" or "a contributing part of a National Register eligible district." Therefore, it is not eligible for the NRHP under Criteria Consideration G.[53]

- 2633 Linden Avenue The resource consists of two single-family houses located on the parcel. The front house is a single-story house constructed in 1948.[54] The rear house is also one-story; it was constructed in 1955.[55] Although the two houses are in fair condition, they are not eligible for the NRHP under any of the significance criteria. Under Criterion A, the resource is not associated with any events that have made a significant contribution to the broad patterns of history. Under Criterion B, the resource is not associated with the lives of any significant persons, or likely to yield information important to history (Criterion D). In addition, this resource does not have distinctive characteristics of a type, period, or method of construction, or represent the work of a master (Criterion C).[56]

- 2624 Pasadena Avenue The resource is a single-story Craftsman bungalow with a front-gabled roof; it was constructed between 1920 and 1922.[57] Although this house is in fair condition, it is not eligible for the NRHP under any of the significance criteria. Under Criterion A, the resource is not associated with any events that have made a significant contribution to the broad patterns of history. Under Criterion B, the resource is not associated with the lives of any significant persons, or likely to yield information

[51] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2685 Elm Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[52] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[53] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2622–2624 Linden Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[54] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[55] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

[56] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2633 Linden Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[57] County of Los Angeles, Office of the Assessor's. 11 October 2004. Online Parcel Viewer. Available at: http://assessormap.co.la.ca.us/mapping/viewer.asp

important to history (Criterion D). In addition, this resource does not have distinctive characteristics of a type, period, or method of construction, or represent the work of a master (Criterion C).[58]

Demolished Buildings/Vacant Parcels

- 300 East Spring Street According to the Assessor, there is a commercial/industrial building that was constructed in 1922 at this address. However, the building was not observed during the survey and this parcel is part of a paved parking that is located southeast of the intersection of Spring Street and Long Beach Boulevard.

- 2608 Pasadena Avenue According to the Assessor, there is a multiple-family building that was constructed between 1915 and 1921 at this address. However, the building was not observed during the survey and this parcel is now a dirt lot.

Native American Coordination

Sapphos Environmental, Inc. coordinated with the NAHC to ascertain the presence of Native American cultural resources or known sacred sites. A response from the NAHC was received on July 7, 2004, and recommended the contacting of Native American individuals and organizations that may have further knowledge on the presence of these resources within the proposed project area.[59] Sapphos Environmental, Inc. sent letters describing the proposed project to the 11 Native American individuals and organizations on September 28, 2004. Mr. Anthony Morales of the Gabrielino/Tongva Tribal Council expressed concerns regarding the Native American sensitivity of the area due to previous identification of the archaeological site of Puvungna within 0.25-mile radius of the proposed project area and the presence of other ethnographically recorded villages in the area.[60,61]

Human Remains

A record search was conducted at the SCCIC to determine the presence of human remains within the proposed project area. The search included a review of all recorded historic sites within a 0.25-mile radius of the proposed project area, as well as a review of all relevant cultural resource and survey reports. In addition, a review of the USGS 7.5-minute series Long Beach topographic quadrangle was completed, which included a visual search for both the small and large cemetery icons.[62] A street map check indicated that there are two cemeteries within the vicinity of the Campus. The nearest formal cemeteries are Veterans Memorial Park, located 0.125 mile west of the proposed project area, and Sunnyside Cemetery, located approximately 0.125 mile to the east of the proposed project area. This

[58] C.D. Harper. 14 October 2004. *Department of Parks and Recreation 523 Primary Record for 2624 Pasadena Avenue*. Contact: South Central Coastal Information Center, 800 North State College Boulevard, Fullerton, CA 92834-6846.

[59] Rob Wood, Native American Heritage Commission. 7 July 2004. (Letter to Ms. Laurie Solis, Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.) Subject: Native American Sacred Sites Record Check.

[60] Anthony Morales, *Personal Communication*, 5 October 2004. Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[61] Anthony Morales, *Personal Communication*, 21 October 2004. Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[62] U.S. Geological Survey. Photorevised 1981 (1964). Long Beach, California, 7.5-Minute Series Topographic Quadrangle. (Scale = 1:24,000.) Contact: U.S. Geological Survey National Center, 12201 Sunrise Valley Drive, Reston, VA 20192.

review determined that there are no current or formal former cemeteries located within the boundaries of the proposed project area. However, Mr. Anthony Morales of the Gabrielino/Tongva Tribal Council expressed concerns regarding the Native American sensitivity of the area due to previous identification of the archaeological site of Puvungna within 0.25-mile radius of the proposed project area and the presence of other ethnographically recorded villages in the area.[63,64]

3.3.3 Significance Threshold

The potential for the proposed project to result in impacts related to cultural resources was analyzed in relation to the questions contained in Appendix G of the State of California Environmental Quality Act (CEQA) Guidelines.

The proposed project would normally be considered to have a significant impact to cultural resources when the potential for any one of the following four thresholds occurs:

- Requires ground-disturbing activities in a geologic unit known to have a moderate-to-high probability to contain unique paleontological resources

- Causes a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines, which would include direct impacts (e.g., great disturbance, increased exposure to water, etc.) or indirect impacts (e.g., increased exposure to vandalism by increasing site accessibility)

- Causes a substantial adverse change in the significance of an historical resource as defined in Section 15064.5 of the State CEQA Guidelines; specifically, a substantial adverse change is any change that is inconsistent with:

    - *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*[65]

    - *Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings*[66]

- Causes excavations in areas known or expected to have a moderate-to-high probability of containing human remains

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[63] Anthony Morales, *Personal Communication*, 5 October 2004. Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[64] Anthony Morales, *Personal Communication*, 21 October 2004. Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[65] Kay D. Weeks and Anne E. Grimmer. 1995. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. Washington, DC: U.S. Department of the Interior, Cultural Resource Stewardship and Partnerships.

[66] Kay D. Weeks and Anne E. Grimmer. 1997. *The Secretary of the Interior's Standards for the Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings*. Washington, DC: U.S. Department of the Interior, Cultural Resource Stewardship and Partnerships.

3.3.4 Impact Analysis

Paleontological Resources

The results of the paleontological record search indicated that there is a potential for paleontological resources to occur within the proposed project site. The results of the geology and soils investigation for the proposed project indicated that the majority of the proposed project site is within an area of native Quaternary Upper Pliocene marine soil (Qpu). The remaining portion of the proposed project area is a former ravine composed of Quaternary Alluvium (Qal) that has subsequently been filled with unclassified fill material (Appendix E, *Geology and Soils*). Because portions of the proposed project area are within a geological formation that is known to be of fossiliferous potential and because the majority of the ground-disturbing activities would be within native soils, the potential impact to paleontological resources rates an acknowledged paleontological sensitivity rating of "high."

Implementation of the proposed project has the potential to result in significant impacts to cultural resources related to ground-disturbing activities in a geologic unit known to have a moderate-to-high probability to contain unique paleontological resources, therefore requiring the consideration of mitigation measures.

Archaeological Resources

The results of the records search indicated the presence of an archaeological site within a 0.25-mile radius of the proposed project site. In addition, the expressed concern by Mr. Anthony Morales of the Gabrielino/Tongva Tribal Council as a result of tribal coordination, the proximity of the village of Puvungna, and because the majority of the ground-disturbing activities would be within native soils, the potential impact to archaeological resources rates an acknowledged archaeological sensitivity rating of "high."

Implementation of the proposed project would have the potential to result in significant impacts to cultural resources related to a substantial adverse change in the significance of an archaeological resource, therefore requiring the consideration of mitigation measures.

Historic Resources

The proposed project would not result in impacts to cultural resources related to a substantial adverse change in the significance of a historical resource. No historic resources were identified by the record search. The results of the field survey indicated that two of the buildings surveyed within the Campus have reached the 50-year threshold and are located outside the limits of demolition and construction for the proposed project elements. The results of the Phase I architectural survey indicated that these two historic buildings may be eligible for the NRHP and warrant further analysis. They are located at 2666 Elm Avenue and 2690 Elm Avenue. The structure located at 2666 Elm Avenue is a single-story rectangular Victorian house with a hipped roof; it was built in 1909. The structure located at 2690 Elm Avenue is a single-story Craftsman bungalow with a front-gabled roof; it was built ca. 1905–1930.

Implementation of the proposed project would not have the potential to result in significant impacts to cultural resources related to a substantial adverse change in the significance of a historic resource; therefore, no mitigation measures are required.

Human Remains

The proposed project is not expected to disturb any human remains, including those interred outside of formal cemeteries. The results of the record search did not identify any human remains within the proposed project area. In addition, a review of the USGS 7.5-minute series Long Beach topographic quadrangle was completed, which confirmed the absence of the small and large cemetery icons in the proposed project area.[67] However, whenever deep soil excavations are undertaken, there is the potential to encounter human remains, thus requiring the consideration of mitigation to address the unanticipated discovery of human remains during construction. The Gabrielino/Tongva Tribal Council has expressed concerns regarding the Native American sensitivity of the area due to previous identification of an archaeological site within a 0.25-mile radius, the proposed project's proximity to the archaeological site of Puvungna, and ethnographic knowledge of other villages in the area.[68,69] Therefore, the proposed project may result in the unanticipated discovery of human remains buried outside of formal cemeteries or Native American sacred sites.

3.3.5 Cumulative Impacts

The proposed project would not result in significant cumulative impacts to cultural resources. There are 43 related projects (Section 2, Project Description, Table 2.6-1, *List of Related Projects*) that have been identified as a result of scoping, public comments, and coordination with the County Department of Regional Planning and the City of Long Beach. Because the cultural resources impacts expected from the implementation of the proposed project do not affect lands outside the boundaries of the proposed project site, these impacts do not create any cumulative impacts on the environment outside of the proposed project boundaries.

3.3.6 Mitigation Measures

Measure Cultural-1

The potential impact to cultural resources related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature from the proposed project shall be reduced to below the level of significance by the presence of a qualified paleontological monitor during all ground-disturbing activities. Any paleontological discoveries shall be removed in accordance with standards for such recovery established by the Society of Vertebrate Paleontology:

Where the qualified vertebrate paleontologist identifies the potential for the grading plan to result in impacts to sites recorded to contain unique paleontological resources or sediments with a medium or high potential to contain significant paleontological resources, a program for recovery of the resources shall be required. This program must include, but not be limited to, the following:

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[67] U.S. Geological Survey. Photorevised 1981 (1964). Long Beach, California, 7.5-Minute Series Topographic Quadrangle. (Scale = 1:24,000.) Contact: U.S. Geological Survey National Center, 12201 Sunrise Valley Drive, Reston, VA 20192.

[68] Anthony Morales, *Personal Communication*, 5 October 2004. Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

[69] Anthony Morales, *Personal Communication*, 21 October 2004. Sapphos Environmental, Inc., 133 Martin Alley, Pasadena, CA 91105.

- Monitoring of excavation in areas likely to contain paleontologic resources by a qualified vertebrate paleontologic monitor. The monitor shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil vertebrates.

- Preparation of recovered specimens to a point of identification, including washing of sediments to recover small fossil vertebrates.

- Identification and curation of specimens into a museum repository with retrievable storage.

- Preparation of a report of findings with an appended, itemized inventory of the specimens. The report and inventory, when submitted to the appropriate lead agency, signifies the completion of the program to mitigate impacts to paleontologic resources.

Measure Cultural-2

The impact to cultural resources related directly or indirectly to the destruction of a unique archaeological resource from the proposed project shall be reduced to below the level of significance by the presence of a qualified archaeological monitor during all ground-disturbing activities within native soils identified as Qal. The City of Long Beach shall ensure that impacts to cultural resources as a result of the potential for earthmoving activity to uncover previously unrecorded archeological resources is below the level of significance through monitoring by a qualified archaeologist of all subsurface operations undertaken in native soils identified as Qal, including but not limited to grading, excavation, trenching, and recording of any previously unrecorded archeological resources encountered during construction. The plans and specifications for all ground-disturbing activities shall identify the need for archeological monitoring and data recovery. The archaeologist shall be on site during any activity when soil is to be moved or exported. The archaeologist shall be authorized to halt the proposed project in the area of a finding, and mark, collect, and evaluate any archaeological materials discovered during construction. In addition, an exploratory archaeological excavation shall be made (i.e., a sample test pit) to assess the presence of cultural resources.

In the event that archaeological resources are encountered by the monitoring archaeologist, the archaeologist shall contact the Gabrielino/Tongva Tribal Council and arrange for a Native American monitor to be present on site during the remainder of excavation activities related to the proposed project.

Copies of any archaeological surveys, studies, or reports of field observation during grading and land modification shall be prepared and certified by the attendant archaeologist and submitted to the South Central Coastal Information Center at California State University Fullerton. Any artifacts recovered during mitigation shall be deposited in an accredited and permanent scientific or educational institution for the benefit of current and future generations.

Measure Cultural-3

The City of Long Beach shall ensure that impacts to cultural resources related to the unanticipated discovery of human remains be reduced to below the level of significance by ensuring that, in the event human remains are encountered, construction in the area of finding shall cease and the remains shall stay in-situ pending definition of an appropriate plan. The Los Angeles County Coroner (Coroner) shall be contacted to determine whether investigation of the cause of death is required. In the event

that the remains are of Native American origin, the Native American Heritage Commission shall be contacted to determine necessary procedures for protection and preservation of remains, including reburial, as provided in the State CEQA Guidelines, Section 15064.5(e), "CEQA and Archaeological Resources," CEQA Technical Advisory Series.[70]

In the event of accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps shall be taken:

There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The Coroner must be contacted to determine that no investigation of the cause of death is required, and

(B) If the Coroner determines the remains to be Native American:

1. The Coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

4. Where the following conditions occur, the landowner of his/her authorized representative shall rebury the Native American human remains and associated grave goods, with appropriate dignity, in the property in a location not subject to further subsurface disturbance:

(a) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.

(b) The descendant in identified fails to make a recommendation.

(c) The landowner or his/her authorized representative rejects the recommendation of the descendent, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

[70] California Resources Agency. 16 September 2004. California Environmental Quality Act, Article 5, §15064.5(e): "Determining the Significance of Impacts to Archeological and Historical Resources." Available at: http://ceres.ca.gov/topic/env_law/ceqa/guidelines/art5.html

3.3.7 Level of Significance after Mitigation

Implementation of mitigation measure Cultural-1 would reduce potential impacts related to paleontological resources to below the level of significance. Implementation of mitigation measure Cultural-2 would reduce potential impacts related to archaeological resources to below the level of significance. There are no anticipated significant impacts to historic resources; therefore, no mitigation measures are required. Implementation of mitigation measure Cultural-3 would reduce potential impacts related to human remains to below the level of significance.