IV. Environmental Impact Analysis

IV. ENVIRONMENTAL IMPACT ANALYSIS
A. AESTHETICS AND VIEWS

1. INTRODUCTION

This section analyzes the potential impacts that could result from the proposed project (the Residential Option, Hotel Option A, and Hotel Option B) with regard to visual quality, views, light and glare, and shade/shadow. Visual quality refers to the overall aesthetic qualities of an area or within a given field of view. Aesthetic features often consist of unique or prominent natural or man-made attributes or several small features that, when viewed together, create a whole that is visually interesting or appealing. The degree of visual access to an aesthetic resource contributes to the value of aesthetic features. The analysis of aesthetics as presented below addresses the project's visual relationship with existing and future known land uses in the surrounding area.

The analysis of views focuses on the extent to which the project may interfere with views of aesthetically-valued resources (e.g., mountain ranges, urban skyline, historic buildings). Existing views may be partially obstructed or entirely blocked by modifications to the environment. Conversely, modifications to the natural or man-made landscape of an area may create or enhance view opportunities. In general, view access is closely tied to topography and distance from an aesthetic resource.

Light impacts are typically associated with the use of artificial light during the evening and nighttime hours. Artificial light may be generated from point sources (e.g., a lit sign), as well as from indirect sources (e.g., reflected light). Uses such as residences, hospitals, and hotels are considered light sensitive since they are typically occupied by persons who have expectations for privacy during evening hours and who are subject to disturbance by bright sources of light.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light from highly polished surfaces, such as window glass or reflective materials, and, to a lesser degree, from broad expanses of light-colored surfaces. Daytime glare generation is common in urban areas and is typically associated with mid- to high- rise buildings with exterior façades largely or entirely comprised of highly reflective glass or mirror-like materials from which the sun can reflect, particularly following sunrise and prior to sunset. Glare generation is typically related to sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare can also be produced during evening and nighttime hours by artificial light sources, such as illuminated signage and vehicle headlights. Glare-sensitive uses generally include residences and transportation corridors (i.e., roadways).

Shading from buildings and structures has the potential to block sunlight. Although shading is a common and expected quality in urban areas and considered a beneficial feature of the environment when it provides cover from excess sunlight and heat, it can have an adverse impact if the blockage interferes with sun-related activities and desired sunlight at shade-sensitive uses.

2. ENVIRONMENTAL SETTING

a. Regulatory Environment

(1) City of Long Beach General Plan

The City of Long Beach General Plan includes a total of 11 elements including; Open Space, Housing, Air Quality, Transportation, Land Use, Seismic Safety, Local Coastal Program, Noise, Public Safety, and Conservation. The elements relevant to the aesthetic value of the project site include the Scenic Highway Element and the Long Beach Local Coastal Program (LCP) Element.

(a) Scenic Highway Element

The Scenic Highway Element was adopted in 1973 in order to protect the valuable viewsheds throughout the City. The Scenic Highway Element identifies a portion of Ocean Boulevard, specifically from Alamitos Boulevard to Bixby Park, as a scenic route. However, the Scenic Highway Element does acknowledge the importance of Ocean Boulevard as the only major east-west street in this part of the coastal zone. Therefore, the Scenic Highways Element recommends that Ocean Boulevard should be used primarily as a scenic route and to serve only as access to the beach and convention area (downtown). In addition, even though Shoreline Drive is not designated as a scenic route, it specifies that the functional design should be compatible with Shoreline Drive usage as a scenic route and the surrounding park usage.

(b) Long Beach Local Coastal Program Element

The City of Long Beach General Plan includes the City's Local Coastal Program Element, which includes general information and policies regarding the coastal area of the City. The coastal zone in the City of Long Beach encompasses over 3,100 acres and a population in excess of 42,000 residing in nearly 22,000 dwelling units. It is the most intensely developed part of the City. As such, the Long Beach LCP includes various community plans for certain districts throughout the City. The community plans describe the existing conditions and land uses within the districts, specifies detailed policy statements for each of the districts, and provides specific

development and use standards. The project site is located within the Downtown Shoreline Community Plan area.

(c) Downtown Shoreline Plan Development District-6 (PD-6)

The Downtown Shoreline Plan Development District-6 (PD-6) describes the existing conditions as they existed when the document was approved in 1980. In reference to the project site, it states that the area south of Ocean Boulevard, between the Long Beach Freeway and Chestnut Avenue is predominantly office uses that were developed as part of the redevelopment of the area, which had formerly been an area for transients called "The Jungle." The PD-6 also identifies visual resources and special communities within the area.

> *The visual resources of the downtown shoreline are varied. Views of the bay and ocean, the Queen Mary and the Port may be enjoyed from within tall buildings lining Ocean Boulevard, as a pedestrian or motorists at the street level, or as a visitor to parts of the filled area below Ocean Boulevard. From the upper floors of some of the taller buildings one may also see the Palo Verdes Peninsula and beach cities of the South Bay, downtown Los Angeles framed by the San Gabriel Mountains, the coastline of Orange County, or Santa Catalina Island.*
>
> *Newer developments along the south side of Ocean Boulevard have been constructed with generous setbacks and some with outdoor plazas to protect the view potential.*

The PD-6 indicates that the project site is located within Subarea 1. In regards to visual resources, the PD-6 includes the preservation of view corridors by requiring an east/west walkway along Ocean Boulevard as one of the general development standards applicable to all of the subareas. Attachment A of the PD-6 specifies the view corridors as occurring along Pine Avenue, Cedar Street, and Chestnut Street, and south of Shoreline Drive along Aquarium Way and South Pine Avenue. It should be noted that no view corridors occur along Ocean Boulevard, through the project site.

(2) Long Beach Municipal Code (LBMC)

Title 17, Zoning, of the City of Long Beach Municipal Code includes property development standards, as well as design guidelines, for development projects within the City. Among the aspects of development regulated by the Zoning Code are types of allowable land uses, setback and height requirements, landscaping, walls, fencing, signage, access, parking requirements, storage areas, and trash enclosures. The Zoning Code also provides performance

standards for various land use types to measure development projects' consistency with such regulations.

b. Existing Conditions

(1) Visual Quality/Aesthetics

(a) Project Site

The approximately 5.87-acre site is located within the highly urbanized area within the City of Long Beach, within the Downtown Shoreline area, near the southern terminus of the Long Beach Freeway (I-710) and just east of where the Los Angeles River flows into Queensway Bay. As illustrated in the aerial photograph, (Figure II-2 in Section II. Project Description) the project site is generally bound by Ocean Boulevard to the north, a six-lane undivided roadway, and Shoreline Drive, which is a six-lane highway to the west and south. In addition, Golden Shore is a two-lane undivided roadway, which bisects the project site from north to south.

The portion of the project site located west of Golden Shore includes Parcels 1 and 2 that total approximately 4.31 acres. Parcel 1 is currently developed with the two-story Molina Health Care building that has a red brick and white stucco exterior. Behind the Molina Health Care building is a surface parking lot that wraps around the building from West Ocean Boulevard to Golden Shore. Landscaping throughout the project site includes stands of predominantly eucalyptus trees with date palms and low ground shrubbery that surround the buildings and extend along the West Ocean Boulevard and Golden Shore frontages. Parcel 2 is currently developed with the City National Bank building that extends along Shoreline Drive with surface parking located west of the building and a parking structure located east of the building. The City National Bank building is at a higher elevation than the surrounding surface parking lot, which allows for a single-level of parking underneath the building. The City National Bank building extends six-stories above the parking structure and is generally white stucco with office windows for individual floors. The parking structure is white concrete and provides two levels of parking, with access provided via Golden Shore. Similarly, mature landscaping trees are located around the City National Bank building and extend along Shoreline Drive and Golden Shore frontages.

Parcel 3 is located east of Golden Shore and totals approximately 1.56 acres. The northwest portion of Parcel 3 is developed with the Union Bank of California building, which is a 14-story building with a brown stucco exterior and brown tinted office windows. Immediately south of the Union Bank of California building is a white concrete, two-story parking structure. Mature landscaping trees extend around the building and along Ocean Boulevard, with smaller

shrubbery extending along Golden Shore. South of the parking structure is Seaside Way, which accesses parking areas for various large commercial buildings fronting Ocean Boulevard. The uses along Seaside Way become primarily residential as it extends east to Magnolia/Queens Way. A small landscaped island separates Seaside Way from Shoreline Drive.

(b) Surrounding Area

As previously described, the project site is bordered to the north by Ocean Boulevard, which rises above the natural grade of the project site when it crosses the Los Angeles River just west of the project site. North of the western portion of the project site and Ocean Boulevard is a vacant area that is a fully landscaped open space area that provides passive recreational opportunities. North of the eastern portion of the project site and Ocean Boulevard is the Hilton Hotel. The Hilton Hotel is located at the northeast corner of Ocean Boulevard and Golden Shore with a large circular entrance at the corner and the 15-story setback from the entrance. Extending eastward along Ocean Boulevard are various high-rise commercial and institutional buildings, including the 27-story One World Trade Center and a Federal Office Building. The south side of Ocean Avenue is characterized by several high-rise residential developments through the downtown center.

The Santa Cruz Park, extends between the Arco Center and the project site, along the southern frontage of Ocean Boulevard. Arco Center, two 13-story office buildings with solid glass exteriors, is located directly to the east of Parcel 3. The Arco Center and the eastern portion of the project site are connected via a broad, landscaped plaza. To the east of the project site, the parking structure for the 100 Ocean Gate building bridges Seaside Way. Queens Way, a north-south street accessing the Queensway Bay Bridge and the Port of Long Beach Southeast Basin is located east of the Catalina Express terminal, one and one-half blocks east of the project site. Queensway Bay and Landing, the Aquarium of the Pacific, the Downtown Long Beach Marina, and other waterfront features are located immediately south of Shoreline Drive and east of Queens Way, to the south and southeast of the project site.

Land uses south of the project site consist of a variety of residential, waterfront, and commercial uses. Golden Shore RV Resort, a Good Sam's park for recreational vehicles, is located directly to the south of the western portion of the project site, south of Shoreline Drive and west of Golden Shore. Similar to Ocean Boulevard, Golden Shore rises above the natural grade of the project site in order to bridge over Shoreline Drive and provide access to the waterfront uses south of Shoreline Drive. The Golden Shore Marine Reserve and an associated public parking lot are located to the south of the RV Park. Immediately south of Shoreline Drive to the east of Golden Shore is the campus of the Office of the State University Chancellor. The campus includes an approximately six-story office building with white stucco and glass exteriors with a landscaped surface parking lot extending north of the building to Shoreline Drive. The Catalina Express terminal and parking structure are also located on Golden Shore, just east of the

Chancellor's campus. Various waterfront, office, and commercial continue southeast of the project site, down Shoreline Drive.

As previously described, the project site is bordered to the west by Shoreline Drive. Extensive landscaping extends further westward to the Los Angeles River. Ocean Boulevard bridges across the Los Angeles River, where the river flows into Queensway Bay, and extends further westward into a predominantly residential and local commercial neighborhood. In addition, Caesar E. Chavez Park, an approximately 33-acre park providing a community center, playground, and landscaped open space, adjoins the east side of the Los Angeles River from the Shoemaker Bridge interchange on the north, where Shoreline Drive connects to I-710, to West Broadway on the south (one block north of the project site).

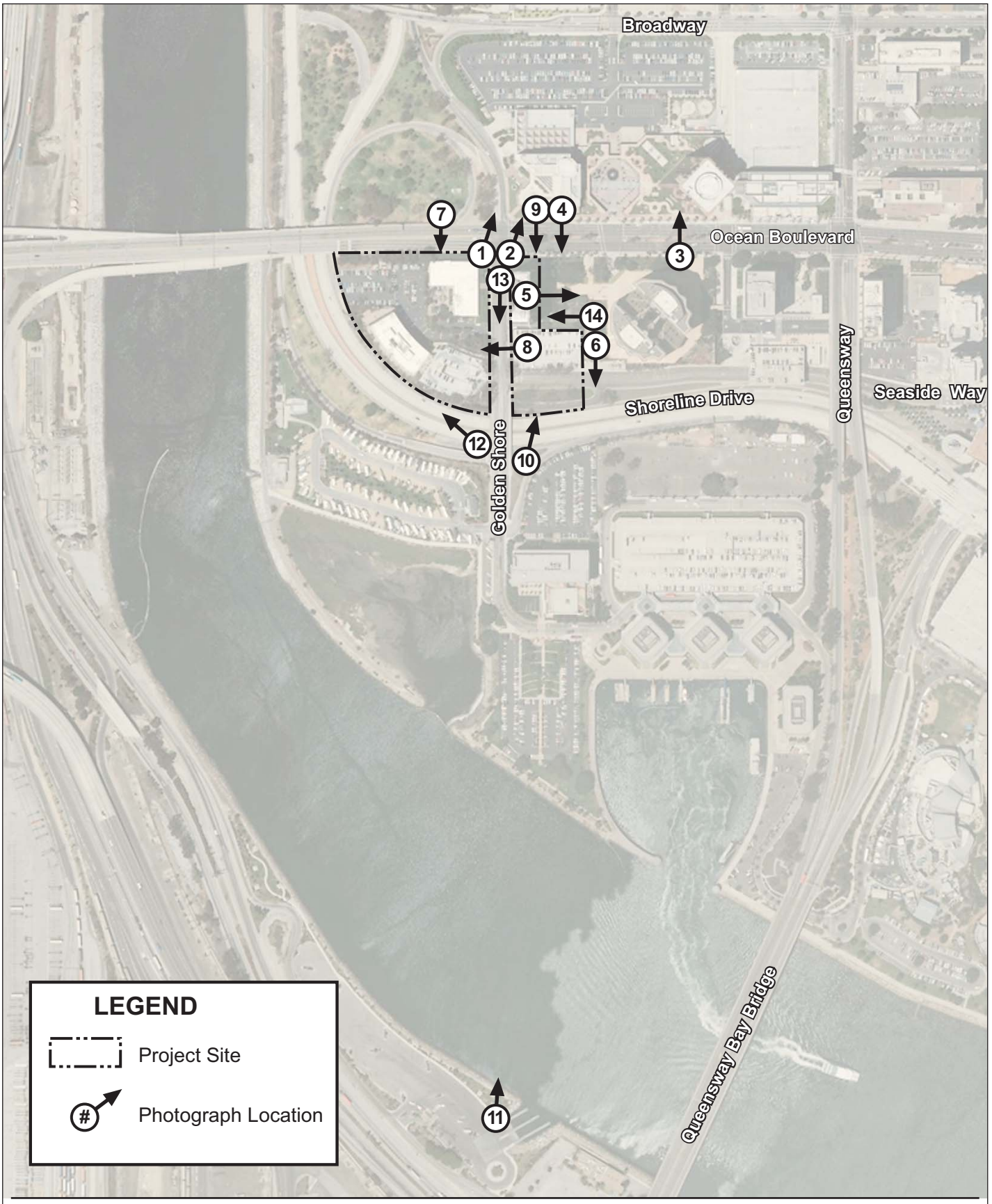
(2) Views

A map of representative vantage points is provided in Figure IV.A-1 on page IV.A-7 and existing views of the area are shown in Figure IV.A-2 through Figure IV.A-6 on pages IV.A-8 through IV.A-12. The photographs show the visibility of the project site or view resources from across the project site and towards the project site in various locations, since public areas are considered view vantage points.

(a) Views from the Project Site

Views northward extend over Ocean Boulevard to the Hilton Hotel and the vacant land north of the project site (refer to Photograph 1). As previously described, Ocean Boulevard is a six-lane undivided roadway with mature landscaping partially obscuring views further northward. Beyond the roadway is the open space area landscaped with pockets of mature canopy trees and local vegetation and shrubbery. The vacant land varies in topography and provides intermittent views further northward of Golden Avenue and Shoreline Drive extending northward through Caesar E. Chavez Park. Views northward from the eastern portion of the project site, across Ocean Boulevard are of the ornate circular entrance to the Hilton Hotel, with the 15-story building obstructing views further northward (refer to Photograph 2). Views further northward are also obstructed by the World Trade Center plaza, which includes retail and restaurant uses around an open air plaza, and the One World Trade Center building, which is a high-rise building with red and glass exterior (refer to Photograph 3).

Views eastward are of the broad, landscaped plaza that connects the eastern portion of the project site to the Arco Center (refer to Photograph 4). The plaza includes extensive ornate landscaping intertwined with open plazas and pockets of stamped concrete that include benches for resting and views to the south of the Office of the State University Chancellor and the Catalina Express terminal and parking structure. Beyond the plaza, views are obstructed by the



PCR

Figure IV.A-1
Map of Vantage Points

Source: PCR Services Corporation, 2009; Google Earth, 2009.

Photograph 1

Photograph 2

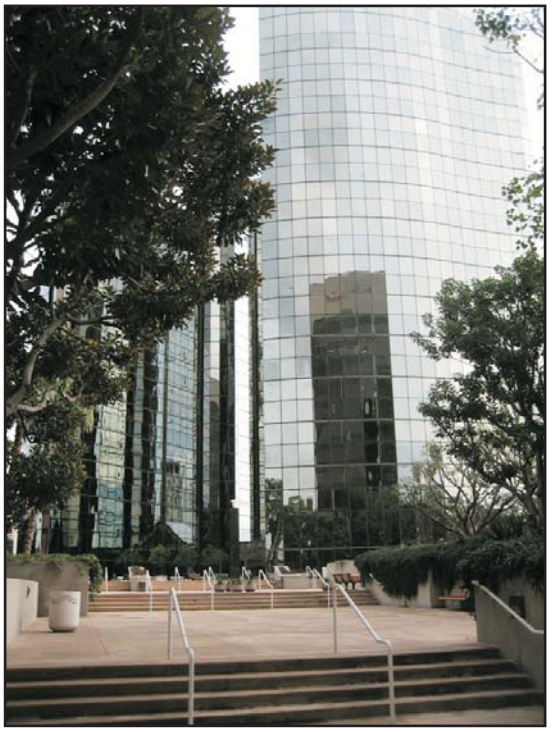
Photograph 3

PCR

Figure IV.A-2
Viewsheds of and from the Project Site

Source: PCR Services Corporation, 2009.

Photograph 4



Photograph 5

Photograph 6

PCR

Figure IV.A-3
Viewsheds of and from the Project Site

Source: PCR Services Corporation, 2009.

Photograph 7

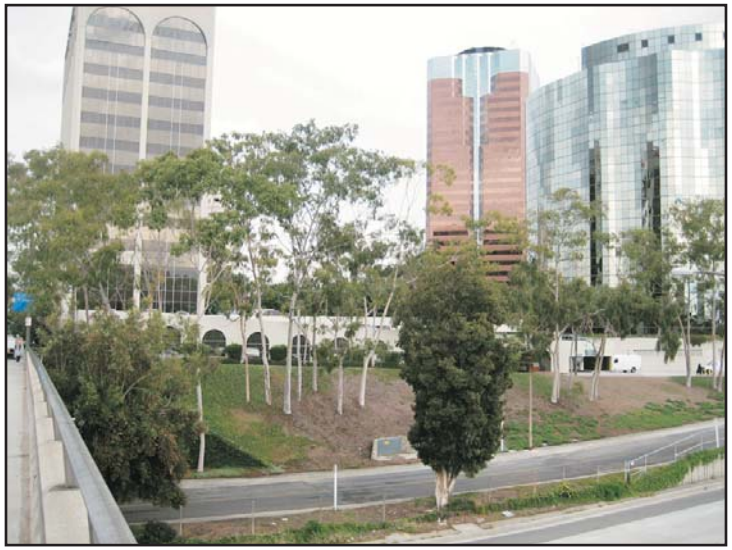
Photograph 8

Photograph 9

PCR

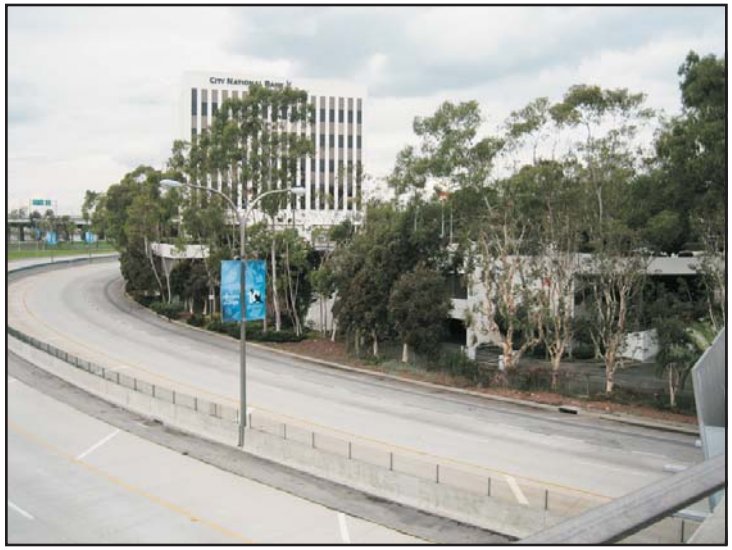
Figure IV.A-4
Viewsheds of and from the Project Site

Source: PCR Services Corporation, 2009.



Photograph 10

Photograph 11



Photograph 12

PCR

Figure IV.A-5
Viewsheds of and from the Project Site

Source: PCR Services Corporation, 2009.

Photograph 13

Photograph 14

PCR

Figure IV.A-6
Viewsheds of and from the Project Site

Source: PCR Services Corporation, 2009.

Arco Center, which as previously described, are two 13-story buildings with glass exteriors (refer to Photograph 5).

Views southward from the eastern portion of the project site extend over the six-lane divided Shoreline Drive, to the surface parking lot associated with the Office of the State University Chancellor (refer to Photograph 6). Beyond the surface parking lot, views are obstructed by the Office of the State University Chancellor building, which is a traditional institutional-style building with white exterior and office windows extending around the individual floors.

(b) Views of the Project Site

Currently, there are no valuable viewsheds of the project site, since none of the buildings are considered scenic resources and any valuable viewsheds of the project site are obstructed by intervening development. Specifically, the western portion (Parcels 1 and 2) of the project site is currently developed with two medical/office buildings with a surface parking lot and subterranean parking located in between the buildings. Specifically, the southwest corner of Ocean Boulevard and Golden Shore is developed with a two-story medical office building for Molina Healthcare Inc. (refer to Photograph 7). It should be noted that the medical office building is at a lower grade than Ocean Boulevard and therefore, only the top story is visible from Ocean Boulevard. In addition, the surface parking areas that extend west and south of the Molina Healthcare building are also obscured from view from Ocean Boulevard due to the recessed level of the site. The southwestern portion of the project site is currently developed with a six-story office building owned by City National Bank (refer to Photograph 8). One-level of subterranean parking is located below the six-level bank building and extends southward to Shoreline Drive and eastward towards Golden Shore. The project site boundary that extends along Shoreline Drive from Ocean Boulevard to Golden Shore is bordered by a chain-link fence with various landscaping trees and shrubs extending along the roadway. It should be noted that views southward from Ocean Boulevard to Queensway Bay are currently obstructed due to the existing medical office and bank building and the topography of the site.

The eastern portion (Parcel 3) of the project site is currently developed with a 14-story Union Bank of California building, which fronts Ocean Boulevard (refer to Photograph 9). South of the Union Bank of California building is a three-story parking structure that extends southward to Seaside Way and eastward toward the Arco Center (refer to Photograph 10). South of the parking structure, is Seaside Way, a two-lane undivided roadway that parallels Shoreline Drive and then a landscape hillside that extends down to Shoreline Drive.

(c) Views to the North

Views northward of the project site from Shoreline Drive, west of Golden Shore consist of a chain-link fence and mature landscaping that extends along the project site's southern boundary. The chain-link fence and landscaping partially obscure the view of the City National Bank building to the west and the parking structure associated with the City National Bank building to the east. There are no further views northward as the existing buildings, parking structure, landscaping, and site topography obstruct any further viewshed of the western portion of the project site. Views northward from Shoreline Drive of the eastern portion of the project site are of a landscaped hillside extending up to Seaside Way. The hillside obstructs a majority of the rest of the view northward, including that of the parking structure that extends along Seaside Way. However, views of the upper stories of the Union Bank of California are afforded, which obstructs any further views northward.

Another advantageous viewshed of the project site is provided from the boat launch, located across the Queensway Bay Bridge. The view across Queensway Bay consists of a rock wall extending up an RV Park that fronts the water and mature landscaping that extends along the water and through the RV Park. Beyond the RV Park and landscaping, views are afforded of the upper stories of the City National Bank building, Union Bank of California building, and the Hilton Hotel, located immediately north of the project site (refer to Photograph 11).

(d) Views to the East

Views to the east of the west parcel from Shoreline Drive are partially obstructed by the chain-link fence and mature landscaping that extends along the roadway. Beyond the fencing, views of the northern portion of the west parcel are of the surface parking area extending to the Molina Healthcare building, which obstructs views further eastward (refer to Photograph 12). Views further eastward of Parcel 2 are of the City National Bank building and its associated parking structure, which obstructs any views further eastward.

The majority of the views eastward of Parcel 3 from Golden Shore are obstructed by the Union Bank of California and the parking structure located south of the building. However, in between the Union Bank of California building and the parking structure is a viewshed of the Arco Center buildings, which obstruct views further eastward. Views from the ground level of the Union Bank of California building are of the open landscaped plaza located in between the bank building and Arco Center. Views further eastward are obstructed by the Arco Center buildings.

(e) Views to the South

Views southward from Ocean Boulevard of the west parcel include the upper stories of the Molina Healthcare building to the east and the City National Bank building further in the background and to the west. As previously described, views of the surface parking lot and of the lower floors of the two buildings are obstructed due to the lower elevation of the site compared to Ocean Boulevard. The two buildings also obstruct any views further south. Views southward of the east parcel are completely obstructed by the Union Bank of California building. However, partial views of the parking structure to the south of the bank building are afforded through the landscaped plaza located immediately east of the project site.

Views southward from Shoreline Drive, include the surface parking lot and the CSU Chancellor Office, which is a four-story building that obstructs views further southward to Queensway Bay. Further to the west, mature landscaping located throughout the RV Park and within the Golden Shore Wildlife Preserve obstructs views further south. The majority of the views southward down Golden Shore are obstructed due to the height of the Golden Shore bridge, which extends over Shoreline Drive. Only the upper floors of the CSU Chancellor Office are visible from the southern boundary of the project site at Golden Shore (refer to Photograph 13).

(f) Views to the West

Views to the west of the east parcel are afforded from the plaza that is located in between the Union Bank of California building and the Arco Center (refer to Photograph 14). Views westward from the northern portion of the site are completely obstructed by the Union Bank of California building. In addition, the large amount of landscaping throughout the plaza obstructs a majority of the view of the parking structure located south of the bank building and the landscaping completely obstructs any views further westward.

Views of the west parcel from Golden Shore are of the upper floors of the Molina Healthcare building to the north. To the south, the entrance to the parking structure for the City National Bank building is immediately visible providing views to the bank building itself in the background (refer to Photograph 8). The two buildings obstruct any views further westward of Queensway Bay. However, it should be noted that views westward from the western boundary of the project site and from the upper floors of the Union Bank of California building and the City National Bank building are afforded beyond Shoreline Drive to Queensway Bay.

(3) Light and Glare

The project site lies within a highly urbanized area, characterized by high ambient nighttime artificial light levels. During nighttime hours, the surrounding mid- and high-rise

commercial and residential buildings typically utilize moderate levels of interior and exterior lighting for security, parking, signage, architectural highlighting, and landscaping. These light sources are generally shielded and directed towards the ground so as to minimize impacts on surrounding uses and nearby sensitive receptors. Other exterior lighting sources include pole-mounted streetlights along adjacent streets (i.e., Ocean Boulevard, Shoreline Drive, and Golden Shore). Headlights from the traffic on local streets, particularly Ocean Boulevard and Shoreline Drive, also contribute to overall ambient artificial light levels in the area. Additionally, interior lighting spillover from windows of nearby commercial and residential uses contributes to the ambient nighttime levels. In the immediate project vicinity, sensitive uses relative to nighttime light include the Hilton Hotel and Santa Cruz Park to the north and the Golden Shore RV Resort and Golden Shore Marine Reserve two blocks to the south of the project site.

Light levels generated within the project site are moderate. Light sources on the project site include exterior security lighting, including lighting poles in surface parking areas, which generate low levels of nighttime lighting. In addition, interior lights from the commercial uses would not extend beyond the property line. Finally, the majority of the signage is not backlit, as the commercial uses do not have brightly lit façades or entrances.

Sensitive receptors to glare include visitors of the Santa Cruz Park and residents of the Hilton Hotel. In addition, motorists traveling on Ocean Boulevard, Golden Shore, and Shoreline Drive could be impacted by glare. None of the buildings within the west parcel currently contribute to glare impacts since the majority of the buildings exterior is concrete with recessed windows. However, the east parcel includes the Union Bank of California building, which has a solid glass exterior, though shaded to reduce glare impacts.

(4) Shade and Shadow

The Cesar E. Chavez, Santa Cruz Park, and Hilton Hotel, located north of the project site are shade sensitive uses in the vicinity of the site. In addition, the Golden Shore RV Resort and Golden Shore Wildlife Reserve, located south of the project site are also considered shade sensitive receptors. The project site is currently developed with the six-story City National Bank building, the two-story Molina Health Care building, and the 14-story Union Bank of California building. Shadows from the Union Bank of California building currently extend north the property line, but do not extend beyond Ocean Boulevard. The City National Bank and Molina Health Care buildings are also not tall enough to have shadows extend beyond the property line. Shadows from the Hilton Hotel are also limited to its site and shadows from the Arco Center extend north and east and therefore also do not impact the project site.

3. PROJECT IMPACTS

a. Methodology

(1) Aesthetics/Visual Character

The visual quality/aesthetics analysis considers the visual quality of the area immediately surrounding the project site and the impacts of the project with respect to the existing aesthetic environment. The analysis is based on the evaluation of simulated composite photographs showing existing and future conditions for representative locations within a range of distances and variety of directions from the project site.

The analysis of visual quality is guided by the following three-step process:

Step 1: Describe the massing and general proportion of buildings and open space, and proposed treatments around the proposed project edges, which may be anticipated on the basis of the proposed project's design features.

Step 2: Compare the expected appearance to the existing site appearance and character of adjacent uses and determine whether and/or to what extent a degrading of the visual character of the area could occur (considering factors such as changes in the appearance of natural features and open space and the blending/contrasting of new and existing buildings given the proposed uses, density, height, bulk, setbacks, signage, etc.).

Step 3: Compare the anticipated appearance of the project to standards within existing plans and policies that are applicable to the proposed project site (regulatory analysis).

(2) Views

The intent of the view obstruction analysis is to determine if valued visual resources exist and whether valued visual resources would be blocked or diminished as a result of project development. The analysis further considers whether the project would enhance viewing conditions through the creation of new resources and whether the proposed project includes design features that would offset or mitigate specific impacts. To determine whether a potential view impact would occur, a three-step process is used to weigh several considerations, as follows:

Step 1: Define the visual resources that could be affected by proposed development.

Step 2: Identify the potential obstruction of visual resources as a result of development of the project site.

Step 3: Evaluate whether a potential obstruction would substantially alter the view. The "substantiality" of an alteration in viewing is somewhat subjective and dependent on many factors. In this case, an obstruction in the view of a particular visual resource is considered

substantial if it exhibits the following traits: (1) the area viewed contains a valued visual resource; (2) the obstruction of the resource covers more than an incidental/small portion of the resource; and (3) the obstruction would occur along a public view area.

(3) Light and Glare

The analysis of light and glare identifies the location of light-sensitive land uses and describes the existing ambient conditions on the project site and in the project vicinity. The analysis describes the project's proposed light and glare sources, and the extent to which project lighting, including illuminated signage, would spill off the project site onto adjacent light-sensitive areas. The analysis also describes the affected street frontages, the direction in which the light would be focused, and the extent to which the project would illuminate sensitive land uses. The analysis also considers the potential for sunlight to reflect off building surfaces (glare) and the extent to which such glare would interfere with the operation of motor vehicles or other activities.

(4) Shade and Shadow

The consequences of shadows on land uses can be positive, including cooling effects during warm weather, or negative, such as loss of warmth during cooler weather and natural light. Shadow effects are dependent on several factors, including local topography, the height and bulk of a project's structural elements, sensitivity of surrounding uses, season, and duration of shadow projection. Shadows have been calculated and plotted for representative hours during the winter and summer solstices. Residential, cultural, educational, and hotel uses where routinely used outdoor recreation areas as well as solar collectors associated with multiple-family residences and institutional uses may occur, and where sunlight may be important to physical comfort or function, are considered sensitive uses. The significance criterion applies to the hours occurring between 9:00 A.M. and 3:00 P.M. during the winter and between the hours of 9:00 A.M. and 5:00 P.M. during the summer. Shading patterns are determined for the following periods:

Season	Date	Time of Day
Winter Solstice	December 21	9 A.M. PST
		10 A.M. PST
		11 A.M. PST
		12 P.M. PST
		1 P.M. PST
		2 P.M. PST
		3 P.M. PST
Summer Solstice	June 21	9 A.M. PDT
		10 A.M. PDT
		11 A.M. PDT
		1 P.M. PDT
		2 P.M. PDT
		3 P.M. PDT
		4 P.M. PDT
		5 P.M. PDT

The varying and seasonally adjusted daytime hours represent the period of the day in which the expectation of available sunlight exists. For the purpose of establishing the hours in which significant impacts occur winter is described as occurring between early November to early March and summer is described as occurring between early March and early November.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist Form typically used during the preparation of a project's Initial Study. The Initial Study Environmental Checklist includes questions relating to aesthetics, views, visual resources, and light and glare. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this Section. Based on these thresholds, a project may create a significant environmental impact if results in any of the following:

- Create a substantial adverse effect on a scenic vista.
- Degrade the existing visual quality of an area.
- Substantially degrade scenic resources within a state- or locally designated scenic highway.
- Create substantial new sources of light or glare which would adversely affect day or nighttime views in the area.
- The project would cast new shadows on off-site shadow-sensitive uses more than three hours between the hours of 9:00 A.M. and 3:00 P.M. Pacific Daylight Time (PDT), between early November and early March or more than four hours between the hours of 9:00 A.M. and 5:00 P.M. Pacific Savings Time (PST) between early March and early November.[1]

Based on these standards, the effects of the proposed project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

[1] *Since there is currently no CEQA threshold specific to shade/shadow impacts, the City of L.A. CEQA Thresholds Guide (2006) was utilized.*

c. Project Design Features

(1) Residential Option

As described in Section II. Project Description, the Residential Option would include the development of 1,370 residential units, 340,000 square feet of office space, 28,000 square feet of retail uses, and 1.342 million square feet of parking within subterranean and above-ground structures that would provide 3,355 parking spaces. The west parcel would be developed with an office tower that would reach a maximum height of 311 feet above the project datum and would include 19 stories of office uses above an embedded level of retail on the ground floor.[2] The office tower would be located on the northeastern portion of the west parcel, fronting both Ocean Boulevard and Golden Shore Drive. West of the office tower would be a residential tower reaching a maximum height of 460 feet above the project datum, which would include 40 stories of residential units above a three-story podium that would include retail uses and residential amenities. Both the office and residential towers would be set back 80 feet from Ocean Boulevard, which would allow area for dedicated park land in accordance with Ordinance C-7848. South of the office tower, the project would develop an additional residential tower that would include 32 stories of residential units above the four-story podium levels that would include retail uses and residential amenities and reach a maximum height of 380 feet above the project datum. The Shoreline Drive frontage would be developed with two-story townhomes and retail uses, and an amenity area that would include public gardens with extensive landscaping to serve as passive recreational areas. The open plaza would be a prominent feature of the development west of Golden Shore. The open plaza would form a large, central open space between the three towers, as well as provide pedestrian and vehicular access to the buildings.

The east parcel would be developed with a mixed-use building that would include five stories of office uses and 29 stories of residential units above a four-level podium that would include resident amenities and retail uses. The proposed tower would be set back 80 feet from Ocean Boulevard, which would allow area for dedicated park land in accordance with Ordinance C-7848. The remainder of the east parcel would be developed with a podium level that would include four stories of underground and four stories of above-ground parking. In addition, two-story townhomes would also be developed along Shoreline Drive on top of the podium. Similar to the west parcel, development of the west parcel would include resident amenities including an outdoor pool and clubhouse and enhanced architectural features including extensive landscaping, stamped concrete, and water features. It should be noted that Golden Shore Drive would also include the same amenities with extensive landscaping provided along both sides and down the

[2] *Building heights are measured from the project datum, which is sidewalk elevation at Golden Shore and Ocean Boulevard, approximately 12 feet above sea level.*

center of the roadway and stamped concrete areas to identify various access points to the western and eastern portion of the project site.

As illustrated in Figure IV.A-7 on page IV.A-22, the townhomes and loft designs would feature a mixture of metal, concrete, and glass exteriors. The styles would provide varying planes of the different exterior elements intertwined with landscaping elements. The commercial uses included in the podium level of the buildings would provide a well-defined two-story base, as illustrated in Figure IV.A-8 on page IV.A-23. The large retail display windows would be articulated by metal and wood accents, along with varying shades of glass exteriors, providing a cohesive and unified design to the development.

Figure IV.A-9 on page IV.A-24 illustrates how the high-rise buildings would feature varying planes of glass exteriors. Individual floor levels would be demarcated with metal framing that would compliment and be compatible with the townhome and commercial exteriors. Similarly, the high-rise buildings would also feature varying shades of glass exteriors that would be consistent with the townhome and commercial uses.

The primary entrance into the site would be identified by a stamped concrete motor court and landscaping. The central plaza would have various water features and would include landscaping throughout the site with a combination of in-ground and potted plants of varying scales within the interior courtyards and along the motor court. Street trees would also be planted along the Ocean Boulevard, Golden Shore, and Shoreline Drive frontages.

The Residential Option would include low-level exterior lighting on buildings and along pathways for security and wayfinding purposes. In addition, low-level lighting to accent architectural, signage, and landscaping elements would be incorporated throughout the site. Consistent with LBMC requirements, on-site lighting would be shielded or directed toward areas to be lit to limit spillover onto adjacent residential uses. Signage would also comply with the LBMC requirements.

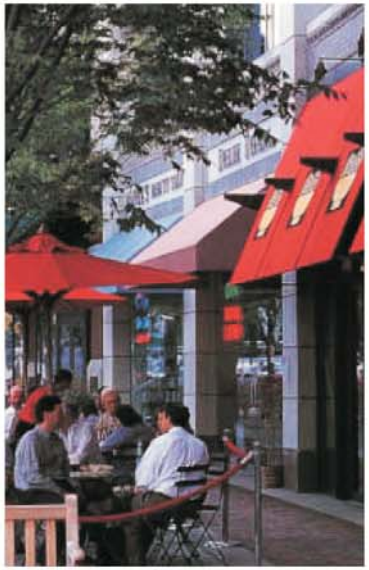
(2) Hotel Option A

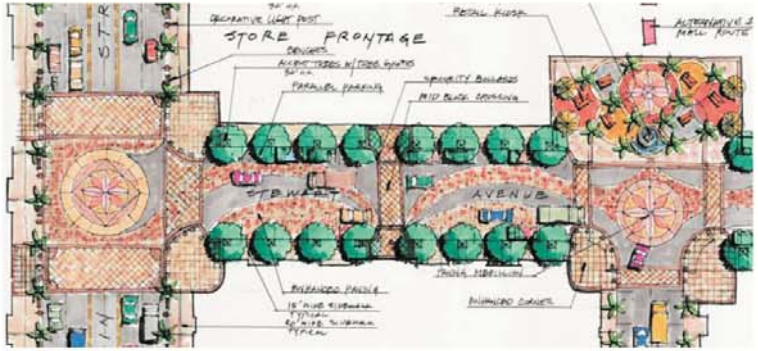
Hotel Option A would include the development of 1,110 residential units, 340,000 square feet of office space, 27,000 square feet of retail uses, a 400 room hotel including a 27,000 square foot banquet hall, and 1.372 million square feet of parking within subterranean and above-ground structures that would provide 3,430 parking spaces. Similar to the Residential Option, the west parcel would be developed with an office tower that would reach a maximum height of 311 feet above the project datum and would include 19 stories of office uses above a level of

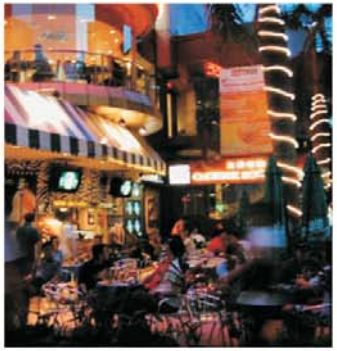
PCR

Figure VI.A-7
Townhomes Design

Source: IBI Group, 2009.







PCR

Figure VI.A-8
Commercial Design

Source: IBI Group, 2009.







PCR

Figure VI.A-9
High-Rise Design

Source: IBI Group, 2009.

retail on the ground floor.[3] The office tower would be located on the northeastern portion of the west parcel, fronting both Ocean Boulevard and Golden Shore Drive. West of the office tower would be a residential tower reaching a maximum height of 460 feet above the project datum, which would also include 40 stories of residential units above a three-story podium that would include retail uses and residential amenities. However, south of the office tower, Hotel Option A would develop a mixed-use tower that would total 27 stories and would include 15 stories of hotel uses and 12 residential levels above a four-story podium level that would include retail uses and residential amenities. The mixed-use tower would reach a maximum height of 330 feet above the project datum. The Shoreline Drive frontage would also be developed with two-story townhomes and retail uses, and an amenity area that would include public gardens with lavish landscaping to serve as passive recreational areas. Similar to the Residential Option, the open plaza would be a prominent feature of the development west of Golden Shore. The open plaza would form a large, central open space between the three towers, as well as provide pedestrian and vehicular access to the buildings.

Under Hotel Option A, the east parcel would also be developed with a mixed-use building. However, the mixed-use tower would total 40 stories with a maximum height of 495 feet and would include five levels of office uses and 35 residential levels above a four-level podium that would include resident amenities and retail uses. Similar to the Residential Option, the proposed tower would be set back 80 feet from Ocean Boulevard in accordance with Ordinance C-7848. The remainder of the east parcel would be developed with a podium level that would include four stories of underground and four stories of above-ground parking. In addition, two-story townhomes would also be developed along Shoreline Drive on top of the podium. Similar to the west parcel, development on the east parcel would include residential amenities including an outdoor pool and clubhouse and enhanced architectural features including extensive landscaping, stamped concrete, and water features. It should be noted that Golden Shore Drive would also include the same amenities with extensive landscaping provided along both sides and down the center of the roadway and stamped concrete areas to identify various access points to the western and eastern portion of the project site.

Hotel Option A would include the same architectural design and elements as the Residential Option, as illustrated in Figure IV.A-7 through Figure IV.A-9. As such, the townhomes and loft designs would feature a mixture of metal, concrete, and glass exteriors with varying planes of the different exterior elements intertwined with landscaping elements. The commercial would similarly provide a well-defined two-story base with large retail display windows articulated by metal and wood accents, along with varying shades of glass exteriors, providing a cohesive and unified design to the development. These features would also be

[3] *Building heights are measured from the project datum, which is sidewalk elevation at Golden Shore and Ocean Boulevard, approximately 12 feet above sea level.*

consistent with the high-rise towers that would feature varying planes of glass exteriors. Similarly, the high-rise buildings would also feature varying shades of glass exteriors that would be consistent with the townhome and commercial uses.

In addition, Hotel Option A would also provide a primary entrance that would be identified by a stamped concrete motor court and landscaping. The central plaza and associated landscaping would also include various water features with landscaping that would be provided in a combination of in-ground and potted plants of varying scales within the interior courtyards, along the motor court, and along the Ocean Boulevard, Golden Shore, and Shoreline Drive frontages. Finally, Hotel Option A would also include low-level exterior lighting on buildings and along pathways for security and wayfinding purposes and to accent architectural, signage, and landscaping elements. On-site lighting would also be shielded or directed toward areas to be lit to limit spillover onto adjacent residential uses and signage would also comply with the LBMC requirements.

(3) Hotel Option B

Hotel Option B would include the same amount of residential units, office space, retail uses, the hotel and banquet hall, and parking areas as described under Hotel Option A. However, the mixed-use tower that would be developed on the west parcel would only include 36 stories with 15 stories for hotel uses and 21 residential levels above the four-story podium level, reaching a maximum height of 420 feet (as opposed to a 40-story tower with a maximum height of 460 feet under the Residential Option and Hotel Option A). In addition, under Hotel Option B, the southern tower on the west parcel would be similar to the Residential Option and would include 24 stories of residential levels above the four-story podium, as opposed to the mixed-use hotel and residential uses under Hotel Option A. Development of the east parcel would be identical to that as described under Hotel Option A.

All architectural and landscaping elements described in the Residential Option and Hotel Option A would be the same as under Hotel Option B. As such, Hotel Option B would also provide a primary entrance that would be identified by a stamped concrete motor court and landscaping. The central plaza and associated landscaping would also include various water features with landscaping that would be provided in a combination of in-ground and potted plants of varying scales within the interior courtyards, along the motor court, and along the Ocean Boulevard, Golden Shore, and Shoreline Drive frontages. Finally, Hotel Option B would also include low-level exterior lighting on buildings and along pathways for security and wayfinding purposes and to accent architectural, signage, and landscaping elements. On-site lighting would also be shielded or directed toward areas to be lit to limit spillover onto adjacent residential uses and signage would also comply with applicable LBMC requirements.

c. Analysis of Project Impacts

(1) Aesthetics/Visual Character

(a) Short-term Construction

(i) Residential Option, Hotel Option A, and Hotel Option B

Construction of the project would include three phases beginning in the middle of 2011 and completion anticipated after 2018. During construction, the project site's visual appearance would be altered due to the removal of the existing structures, site preparation and grading, and the construction of buildings and landscaping. Construction activities would include the storage of equipment and materials on the site. In addition, the project would include the use of cranes during the construction of the upper levels of the office, residential, and mixed-use towers. Construction activities would be visible to adjacent land uses as well as pedestrians and motorists on Ocean Boulevard, Golden Shore, and Shoreline Drive. Finally, due to the fact that construction activities would not be short-term since they would occur for at least seven years, impacts regarding construction activities would be significant without the incorporation of mitigation measures.

Visible construction activities would also include truck traffic to and from the site. However, the impact of construction trucking would not significantly impact the visual quality of the area, since major roadways are intended to accommodate a range of vehicle types, including trucks incidental to construction and deliveries. Therefore, construction-related visual impacts would be less than significant.

(b) Operation

(i) Residential Option

Implementation of the Residential Option would replace the existing buildings and associated parking structures with development of four high-rise buildings and would reduce the elevation of the site to the same level as Ocean Boulevard. The project would convert the project site's current appearance from that of a mixture of commercial and office uses with eclectic architectural styles to a mixed-use site with residential, retail, and office uses integrated by a series of landscaped pedestrian walkways along gardens and open-air plazas. The proposed landscaping, particularly along the Ocean Boulevard and Shoreline Drive street frontages, would enhance the appearance of the site and would help to promote pedestrian activity in the area. Thus, the project would not degrade the visual character of the area. Rather, the project would result in aesthetic benefits through the creation of a high quality visual setting.

As previously discussed, proposed parking on-site would be designed to maximize efficiency and minimize visual impacts, such as that currently presented by the large expanses of parking structures on-site today. Through landscaping, particularly along Ocean Boulevard and Shoreline Drive, and screened parking within the parking decks, the project is intended to maintain a feeling of openness and design innovation central to the Downtown Shoreline area's pedestrian-friendly environment.

The proposed project would result in greater density and scale of development (bulk) at the project site when compared with existing conditions. As previously described, the site would be transformed from an eclectic mix of commercial and office uses with no unified style of design or architecture to a cohesive, aesthetically enhanced mixed-use development. Furthermore, as illustrated in Figure IV.A-7 through Figure IV.A-9, the use of different shading of glass combined with metal accents would provide a more modern development, while wood and stucco accents would be utilized to soften the geometrical architectural design. Additionally, the project's contemporary urban style and form and the modulated design of the building heights as well as the high quality architectural materials and mix of colors to be used would create visual vitality.

The project's landscaping plan would also contribute to an aesthetically pleasing, pedestrian-oriented development. The landscaping plan would enhance the site with new accent trees, flowering shrubs, under-story plants, turf, and paving elements. The appearance of bulk and mass would also be softened as a result of the integrated landscaped pedestrian walkways along gardens, open-air plazas, and a newly greened streetscape along Ocean Boulevard, Golden Shore, and Shoreline Drive. Through the creation of such open spaces and landscaping, the Residential Option is intended to maintain a feeling of openness as community-oriented central gathering place as well as transform the project site's streetscape.

Overall, development of the Residential Option would represent a substantial aesthetic improvement relative to the existing appearance of the site. The Residential Option would not remove or demolish valued features or elements that contribute positively to the visual character of the vicinity. Additionally, the Residential Option would not degrade or detract from the existing visual quality of the site and its surroundings. Development of high-rise buildings up to 460 feet tall would also be consistent with the surrounding high-rise office uses that surround the project site (including the Arco Center to the east and the World Trade Center to the north of the project site). As such, the design of Residential Option would improve and enhance the visual character of the site, be aesthetically compatible with surrounding uses, and generally improve the identity of the area. The Residential Option would also provide landscaped pedestrian walkways along gardens and open-air plazas that are intended to provide a pedestrian-friendly environment as well as create a development acknowledged for its landmark design. Accordingly, visual quality impacts due to the Residential Option would be less than significant.

(ii) Hotel Options (A and B)

Similar to the Residential Option, implementation of the Hotel Options would replace the existing mixture of commercial and office uses with eclectic architectural styles to a mixed-use site with residential, retail, office, and hotel uses integrated by a series of landscaped pedestrian walkways along gardens and open air plazas. The proposed landscaping, particularly along the Ocean Boulevard, Golden Shore, and Shoreline Drive street frontages, would enhance the appearance of the site, would help to promote pedestrian activity in the area, and screened parking within the parking decks. The landscaping plan would also enhance the site with new accent trees, flowering shrubs, under-story plants, turf, and paving elements. The appearance of bulk and mass would be softened as a result of the integrated landscaped pedestrian walkways along gardens, open-air plazas, and a newly greened streetscape along Ocean Boulevard and Shoreline Drive. Through the creation of such open spaces and landscaping, particularly along Ocean Boulevard, the Hotel Options are intended to maintain a feeling of openness as community-oriented central gathering place as well as transform the project site's streetscape. Thus, the Hotel Options would not degrade the visual character of the area. Rather, the Hotel Options would result in aesthetic benefits through the creation of a high quality visual setting.

Therefore, similar to the Residential Option, the Hotel Options would represent a substantial aesthetic improvement relative to the existing appearance of the site. The Hotel Options would not remove or demolish valued features or elements that contribute positively to the visual character of the vicinity. Additionally, the Hotel Options would not degrade or detract from the existing visual quality of the site and its surroundings. Finally, development of high-rise buildings up to 460 feet tall would be consistent with the surrounding high-rise office uses that surround the project site. As such, visual quality impacts due to the Hotel Options would be less than significant.

(2) Views

(a) Residential Option

(i) Views Southward

As previously described, views southward from Ocean Boulevard of the west parcel are currently of the six-story City National Bank building and the two-story Molina Health Care building, which effectively obstruct any views further southward. Development of the Residential Option would develop the 19-story office tower on the northeast portion of the west parcel and the 40-story residential tower on the western portion of the west parcel. These two building with maximum height of 311 feet and 460 feet, respectively, would obstruct any views further southward. However, it should be noted that behind the office tower, the upper floors of the 32-story residential tower located in Parcel 2, would be visible. In between the three

buildings would be an open plaza, which would be a large, central open space providing pedestrian and vehicular access to the buildings. The plaza, which would sit atop the roof deck of the central portion of the parking structure, would feature extensive architectural elements, including stamped concrete designs, water features, and extensive landscaping. Views through the open plaza would extend to the podium within Parcel 2. As previously described, the podium would include three stories of retail and resident amenities, along with two-story townhomes along the Shoreline Drive frontage. The podium would obstruct any further views southward.

Development of the Residential Option would replace the current view of the 14-story Union Bank of California building on the east parcel, with a 34-story mixed-use building that would include office and residential uses. Therefore, similar to existing conditions, views southward from Ocean Boulevard of the east parcel would be of a high-rise building that would obstruct any views further southward. However, as previously described, the high-rise buildings would feature modern glass exteriors with varying architectural elements that would enhance the visual character of the project site. Therefore, impacts to views southward would be less than significant under the Residential Option.

(ii) Views Westward

Views westward from the Arco Center would not be dramatically different from the current viewshed of the Union Bank of America building, which obstructs any views further west, since it would be replaced with the 34-story mixed-use tower. However, while views westward would continue to be obstructed, the development of the mixed-use tower would aesthetically enhance the view of the project site by replacing an older, white concrete building with an aesthetically enhanced and modernized mixed-use building that would feature differing panes of glass designs and shading. In addition, views of the southern portion of Parcel 3 would be enhanced by replacing the view of a parking structure with the four-story podium that would include retail and resident amenities along with the embedded two-story townhomes. Finally, the roof deck of the podium would include extensive resident amenities including a pool, clubhouse, and extensive landscaping that would further enhance the view of the southern portion of Parcel 3.

Views westward from Golden Shore would also be transformed from mid-rise office buildings and a parking structure, to a fully landscaped street way. The office tower and southern residential towers would be aesthetically enhanced and modernized compared to the institutional buildings that currently exist. In addition, the viewshed further westward would not change since the Molina Health Care building and City National Bank building currently also obstructs the viewshed further westward. Therefore, impacts to views westward would be less than significant under the Residential Option.

(iii) Views Northward

Development of the Residential Option would replace the current views from Shoreline Drive of a partially landscaped hillside extending up to white parking structures with the podium levels that would extend along the Shoreline Drive frontage. Specifically, the majority of the views from Shoreline Drive would consist of the two-story townhomes that would front Shoreline Drive. As described above, the townhomes and loft designs would feature a mixture of metal, concrete, and glass exteriors with varying planes of the different exterior elements intertwined with landscaping elements. In addition, the podium levels would feature resident amenities with decks extending along the roof that would include pools, open area plazas, clubhouses, and other residential amenities. While the two-story townhomes would obstruct the majority of the views further northward, the 34-story mixed-use tower would be visible above the podium level in the east parcel and the 32-story residential tower would also be visible at the corner of Shoreline Drive and Golden Shore. Since the residential tower would be a maximum height of 380 feet, it would obstruct views of the office tower, located north of the residential tower along Ocean Boulevard. Regardless, due to the improved aesthetic character and unified design of the proposed development, impacts to the views northward under the Residential Option would be less than significant.

(iv) Views Eastward

Views eastward would be similar to the northward views, consisting mainly of the two-story townhomes extending along the Shoreline Drive frontage. Views of the 32-story residential tower located at the southern portion of Parcel 2 would also be afforded above the podium level, which would obstruct views further eastward. In addition, views of the project site, further north on Shoreline Drive would also be obstructed due to the 40-story residential tower that would be located at the northern portion of Parcel 2. It should be noted that the 34-story mixed-use tower that would be developed in Parcel 3 would not be visible beyond the 40-story residential tower but may be intermittently visible beyond the podium and 32-story residential tower. As described above, the architectural elements of the retail and residential units included in the podium level would be consistent with the metal and glass designs of the high-rise towers. As such, views eastward would be enhanced with unified design of the two residential towers and podium that would extend along the Shoreline Drive frontage, resulting in less than significant impact to the views westward under the Residential Option.

(b) Hotel Option A

(i) Views Southward

Views southward under Hotel Option A would be similar to those as described under the Residential Option. Specifically views of the east and west parcels would be almost identical

with development of the 40-story residential tower on the western portion of the west parcel and the 19-story office tower located on the eastern portion of the west parcel. However, views of the 27-story mixed-use tower located south of the office tower may not necessarily be afforded since it would only extend approximately 20 feet above the office tower, as opposed to approximately 70 feet under the Residential Option. It should be noted that while there would be no difference in the viewshed of the east parcel, that instead of being developed with a 34-story mixed-use tower with a maximum height of 425 feet, it would be developed with a 40-story mixed-use tower with a maximum height of 495 feet. As such, a greater amount of the skyline would not be visible under Hotel Option A. All other elements of the viewshed southward, including the architectural and landscaping elements, would be the same as described under the Residential Option resulting in less than significant impacts to views southward under Hotel Option A.

(ii) Views Westward

Similarly, views westward from the Arco Center would be identical to those as described under the Residential Option. The only difference would be, as described above, the fact that the mixed-use tower that would be developed on Parcel 3 would total 40 stories with a maximum height of 495 feet. As such, a greater amount of the skyline would not be visible under Hotel Option A, compared to the Residential Option. All other elements of the viewshed westward, including the architectural and landscaping elements, would be the same as described under the Residential Option resulting in less than significant impacts to views westward under Hotel Option A.

(iii) Views Northward

Under Hotel Option A, the views northward would also be similar to those described under the Residential Option. The difference would be the development of the 27-story mixed-use tower at the southern portion of Parcel 2. Specifically, the mixed-use tower would have five less floors than under the Residential Option, resulting in a decreased height of approximately 50 feet. In addition, the mixed-use tower would also be designed slightly different with a more trapezoidal shape extending westward, as opposed to extending directly north and south, as under the Residential Option. Regardless, all other architectural and landscaping elements would be the same as those described under the Residential Option. As such, impacts to the viewshed northward would be less than significant under Hotel Option A.

(iv) Views Eastward

Development of Hotel Option A would also result in the similar viewshed eastward as described under the Residential Option. The only significant difference would be the reduced height of the 27-story mixed-use tower at the southern portion of Parcel 2, which would provide

a greater view of the skyline compared to the Residential Option. In addition, since the 40-story mixed-use tower that would be developed in Parcel 3 under Hotel Option A would be 70 feet taller than that developed under the Residential Option, there would be a greater view of the upper levels of this tower from Shoreline Drive. Since all other architectural and landscaping elements would be the same as that as described under the Residential Option, impacts to views eastward would be less than significant under Hotel Option A.

(c) Hotel Option B

(i) Views Southward

Views southward of the west parcel under Hotel Option B would be similar to those as described under the Residential Option and Hotel Option A, except for the tower located on the western portion of the west parcel. Instead of a 40-story residential tower, Hotel Option B would develop a 36-story mixed-use tower that would include 15 hotel levels and 21 residential levels above the podium with a maximum height of 420 feet (as opposed to 460 feet under the Residential Option and Hotel Option A). In addition, this building would be of a slightly different design consisting of three contiguous squares connected at the inner corners, as opposed to one oblong building. Development of the east parcel would be identical as to what was described under Hotel Option B. Therefore, since the only difference between Hotel Option B and the Residential Option and Hotel Option A would be the development of the mixed-use tower that would be shorter than that proposed under the other two options, impacts to the southward views would be less than significant under Hotel Option B.

(ii) Views Westward

Development of Hotel Option B would be the same as that described under Hotel Option A. Therefore, since all other architectural and landscaping elements would be the same as that as described under Hotel Option A, impacts to views westward would be less than significant under Hotel Option B.

(iii) Views Northward

Under Hotel Option B, views northward would be slightly different than those described under the Residential Option and Hotel Option A since the residential tower that would be developed on the southern portion of Parcel 2 would only be 24 stories and the development of the 36-story mixed-use tower at the northern portion of Parcel 2. As a result, the southern residential tower would have a maximum height of 300 feet (as opposed to 380 feet under the Residential Option and 330 feet under Hotel Option A) and the mixed-use tower would have a maximum height of 420 feet compared to the 460 feet proposed under the Residential Option and

Hotel Option A. Since all architectural and landscaping element would be the same as described under the Residential Option and Hotel Option A, and under the Hotel Option B, two of the towers would be reduced in height providing a greater view of the skyline, impacts to views northward would be less than significant under Hotel Option B.

(iv) Views Eastward

As described in the discussion above, the two towers that would be developed on Parcel 2 would be reduced in height compared to what is proposed under the Residential Option and Hotel Option A. Specifically, the northern tower would be a 420-foot tall tower with hotel and residential uses and the southern tower would include only 24 stories with a maximum height of 300 feet. Therefore, since all other elements would be the same as under the Residential Option and Hotel Option A, impacts to the eastward views under Hotel Option B would be less than significant.

(3) Light and Glare

Sensitive uses with respect to artificial or nighttime light and glare in the project area include the Hilton Hotel located north of the project site, the Golden Shore RV Resort located south of the project site, and the Golden Shore Wildlife Preserve, also located south of the project site.

(a) Light

(i) Construction

Residential Option, Hotel Option A, and Hotel Option B

Lighting needed during project construction could generate light spillover to adjacent uses in the project vicinity, including the Hilton Hotel and Santa Cruz Park located to the north. However, construction lighting is not anticipated to impact the Golden Shore RV Resort or the Golden Shore Wildlife Preserve located south of the project due to intervening topography and distance from the project site. In addition, construction activities would occur primarily during daylight hours and any construction-related illumination would be used for safety and security purposes only, in compliance with LBMC light intensity requirements and would only occur for the duration needed in the temporary construction process. Thus, with adherence to existing LBMC regulations, light resulting from construction activities would not significantly impact sensitive uses, substantially alter the character of offsite areas surrounding the construction area, or interfere with the performance of an off-site activity. Therefore, light impacts associated with construction would be less than significant under the Residential Option, Hotel Option A, and Hotel Option B.

(ii) Operation

Residential Option, Hotel Option A, and Hotel Option B

As previously described, light sensitive uses include the Hilton Hotel and Santa Cruz Park to the north and the Golden Shore RV Resort and Golden Shore Wildlife Preserve located south of the project site. However, it should be noted that the intervening topography and distance of the Golden Shore RV Resort and Golden Shore Wildlife Preserve, would help to screen the light sensitive uses from light emanating from the project buildings.

Development of the Residential Option, Hotel Option A, or Hotel Option B would introduce more lighting to the site than under existing conditions. New light sources associated with the project would include light spillage from retail display windows along Ocean Boulevard, illuminated building identification and retail business signs, architectural and landscape lighting, security and wayfinding lighting provided at vehicle entry points and areas of circulation, exterior lighting at building entrance areas, and pedestrian and other security lighting along Ocean Boulevard, Golden Shore, and Shoreline Drive. Other sources include interior light spillage from on-site residences.

Architectural lighting, illuminated signage, and interior light spillage from the proposed project's upper stories may be visible from the Hilton Hotel to the north and the Golden Shore RV Resort and Golden Shore Wildlife Preserve to the south. However, it should be noted that lighting for architectural highlighting would be designed to be dimmable and the hours of operation could be controlled to optimize its effects architecturally and on the community.

Lighting from signage would not exceed LBMC illuminated sign regulations, which requires that all lighting be indirect lighting and be directed onto the display surface only (Sec. 21.54.250). The pattern of interior light spillage from upper stories would be similar to off-site uses, as interior lighting ceases when guest and residents retire for the night. Therefore, the increase in ambient lighting would not interfere with activities in nearby neighborhoods.

Based on the above, with adherence to applicable LBMC regulations, lighting associated with the Residential Option, Hotel Option A, and Hotel Option B, would be consistent with the character of the off-site areas surrounding the project and would not interfere with the performance of an off-site activity from any residential use. Impacts attributable to project-induced artificial lighting would be less than significant.

(b) Glare

(i) Construction

Residential Option, Hotel Option A, and Hotel Option B

Construction activities are not anticipated to result in flat, shiny surfaces that would reflect sunlight or cause other natural glare. Therefore, under the Residential Option, Hotel Option A, and Hotel Option B reflection associated with sunlight and natural glare would be less than significant during construction.

(ii) Operation

Residential Option, Hotel Option A, and Hotel Option B

Daytime glare can result from natural sunlight reflecting from a shiny surface that would interfere with the performance of an off-site activity, such as the operation of a motor vehicle. Reflective surfaces can be associated with window glass and polished surfaces, such as metallic or glass curtain walls and trim. In general, sun reflection that has the greatest potential to interfere with driving occurs from the lower stories of a structure.

Sun reflection from the proposed structures would occur during periods in which the sun is low on the horizon and when the point of reflection from the building is in front of the driver, in the direction of travel. During certain times of the year the potential exists for the sun to be low in the sky and directly behind east- and west-bound drivers on Ocean Boulevard, Golden Shore, and Shoreline Drive. During these periods, reflected light from the building's glass and other shiny surfaces would potentially create glare with respect to approaching streets.

Since Ocean Boulevard, Golden Shore, and Shoreline Drive have high levels of traffic, glare from reflected sunlight could interfere with the operation of a motor vehicle or other activity. The project could also be source of glare to the Hilton Hotel to the north and the Golden Shore RV Resort and Golden Shore Wildlife Preserve to the south. However, in compliance with Section 21.54.250 of the LBMC, direct glare from signage/billboards is prohibited to shine onto adjacent properties or public areas. In addition, as illuminated signs would be similar to signage on existing commercial buildings, the project would not create a

singular, disruptive glare source. Therefore, development of the Residential Option, Hotel Option A, and Hotel Option B would result in less than significant glare impacts.[4]

(4) Shade and Shadow

The potential shading impacts of the project are determined in accordance with the shade sensitive uses including outdoor areas associated with residential, cultural, educational, and hotel uses. As such, shade sensitive uses in proximity to the project site would include the Hilton Hotel, Cesar E. Chavez Park, and the Santa Cruz Park located north of the project site, and the Golden Shore RV Resort and Golden Shore Wildlife Preserve to the south.

Development of the project would generate new shadows with varied lengths and angles depending on the time of day and season. As described above, a significant shade/shadow impact would occur if a project would cast new shadows on off-site shadow-sensitive uses for more than three hours between 9:00 A.M. and 3:00 P.M. PDT (between early November and early March) or for more than four hours between 9:00 A.M. and 5:00 P.M. PST (between early March and early November). Please note that the shade/shadow analysis has only been prepared for Hotel Option A, as it includes the tallest buildings and represents a worst-case scenario, as indicated in Figure IV.A-10 and Figure IV.A-11 on pages IV.A-38 and IV.A-39, respectively.

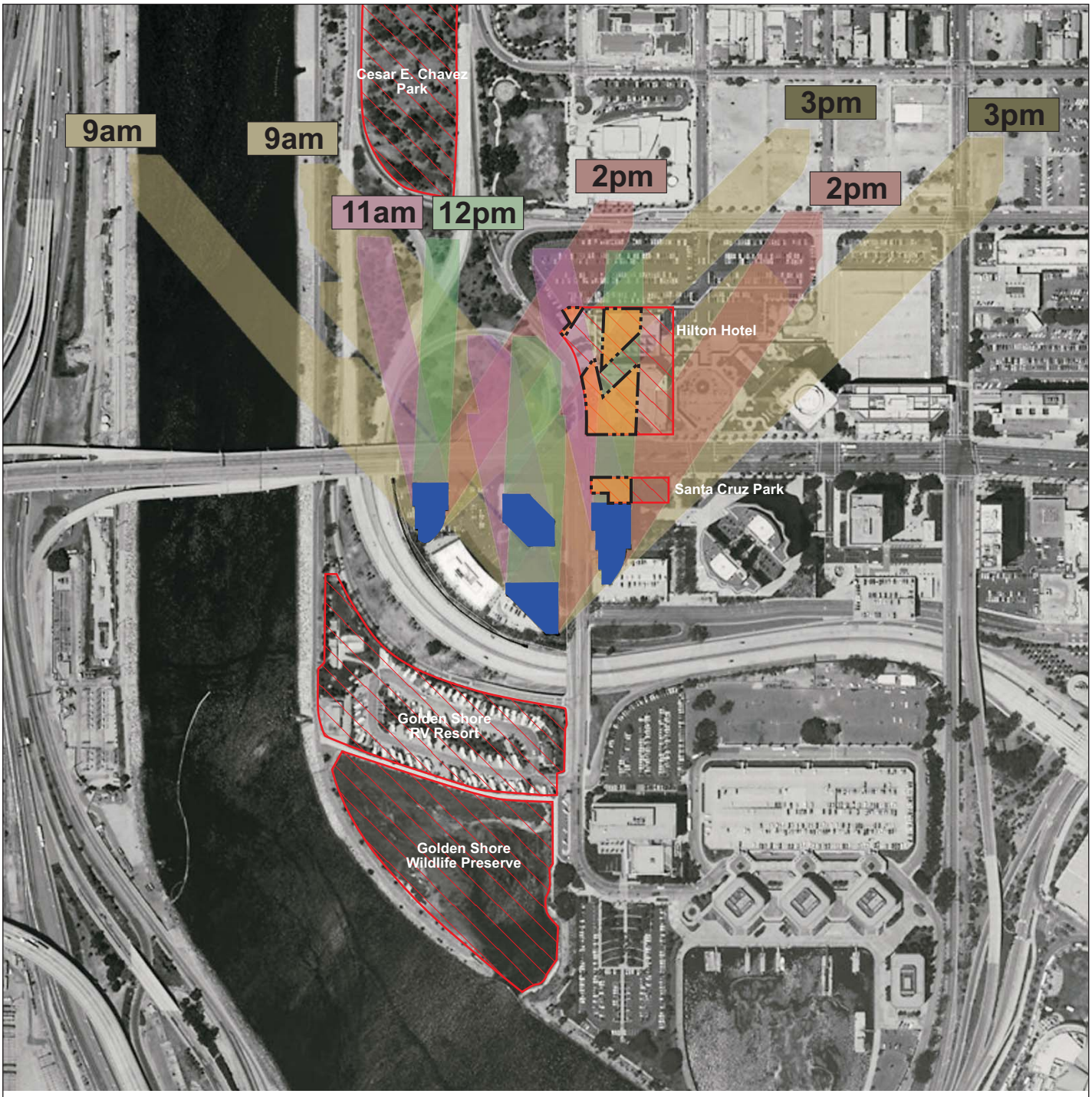
(a) Residential Option, Hotel Option A, and Hotel Option B[5]

(i) Winter Solstice

As illustrated in Figure IV.A-10, shading during the winter solstice from the project buildings would extend northward and to the west during the morning while shifting eastward throughout the day. It should be noted that since shading during the winter would only extend northward, the Golden Shore RV Resort and Golden Shore Wildlife Preserve would not be impacted by shading from the project buildings. However, shading from the project buildings would extend northwest in the morning across the Los Angeles River and then shift eastward towards the World Trade Center. As a result, shading from the project buildings would impact Santa Cruz Park and the Hilton Hotel beginning at 11:00 A.M. and extending until 3:00 P.M. for a total of four hours, which is greater than the three hour threshold. However, it should be noted that Santa Cruz Park is currently shaded by the extensive amount of canopy trees and mature

[4] *It should be noted that glare from vehicle windshields driving along Ocean Boulevard, Golden Shore, and Shoreline Drive currently does not interfere with activities on the project site and is not anticipated to impact the project. As such, impacts are concluded to be less than significant and no mitigation measures are required.*

[5] *It should be noted that the areas impacted by shadows from the project buildings are so close to the project site that the 40 to 80 foot difference in the building heights compared to the Residential Option or Hotel Option B would not alter the shade impacts.*



NOTE:

Los Angeles CEQA Thresholds Guide Standard:

A project impact would normally be considered significant if shadow-sensitive uses would be shaded by project-related structures for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time (Between early November to early March).

Proposed Buildings

Sensitive Uses

Area of Potential Effect

PCR

Figure IV.A-10
Winter Solstice Shade Patterns

Source: PCR Services Corporation, 2009; Google Earth, 2008.

NOTE:

Los Angeles CEQA Thresholds Guide Standard:

A project impact would normally be considered significant if shadow-sensitive uses would be shaded by project-related structures for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. Pacific Daylight Time (between early March and early November).

Proposed Buildings

Sensitive Uses

Area of Potential Effect

PCR

Figure IV.A-11
Summer Solstice Shade Patterns

Source: PCR Services Corporation, 2009; Google Earth, 2008.

landscaping and the 14-story Union Bank of America building. Therefore, development of the Residential Option, Hotel Option A, and Hotel Option B would not cast new shadows onto Santa Cruz Park. Similarly, the Hilton Hotel is currently shaded by the 27-story World Trade Center building. Therefore, development of the Residential Option, Hotel Option A, and Hotel Option B, would not cast new shadows on off-site shade-sensitive uses, resulting in less than significant impacts in this regard.

(ii) Summer Solstice

As illustrated in Figure IV.A-11, shading during the summer solstice from the project buildings would extend from west to east without the northward shift. As a result, shading during the summer solstice would not extend northward to the Hilton Hotel or Cesar E. Chavez Park or southward to the Golden Shore RV Resort and Golden Shore Wildlife Reserve and impacts to these shade sensitive receptors would be less than significant. In addition, shading over Santa Cruz Park would continue to begin at 11:00 a.m. but would be unshaded by 1:00 p.m., resulting in shading impacts for only two hours. As such, it can be concluded that shade and shadow impacts during the summer solstice under the Residential Option, Hotel Option A, and Hotel Option B would be less than significant.

(5) Consistency with Regulatory Environment

(a) Residential Option

(i) City of Long Beach General Plan

As previously described, the Scenic Highway Element identifies a portion of Ocean Boulevard, from Alamitos Boulevard to Bixby Park, as a scenic route but also acknowledges the importance of Ocean Boulevard as the only major east-west street in this part of the coastal zone. Therefore, the Scenic Highways Element recommends that Ocean Boulevard should be used primarily as a scenic route and to serve only as access to the beach and convention area (downtown). Development of the Residential Option would not alter the existing conditions of Ocean Boulevard and instead would improve the viewshed along this scenic route. In addition, even though Shoreline Drive is not designated as a scenic route, it specifies that the functional design should be compatible with Shoreline Drive usage as a scenic route and the surrounding park usage. As such, similar to Ocean Boulevard, development of the Residential Option would improve the views along this scenic roadway and would preserve the existing conditions of this roadway as an important scenic route to the beach and downtown area.

Since the project site is located within the coastal zone of the City of Long Beach, it is also subject to the conditions of the Long Beach LCP. The Long Beach LCP designates the project site as being located within the Downtown Shoreline Community Plan area and

specifically within PD-6. Within the Long Beach LCP, the PD-6 description identifies visual resources including views of the bay and ocean, the Queen Mary and the Long Beach Port. As previously described, views southward from Ocean Boulevard are currently obstructed by the office and commercial buildings currently located on-site. Therefore, development of the Residential Option would not alter the existing viewshed from Ocean Boulevard. It should also be noted that the description of the visual resources includes the views from high-rise buildings which provide a viewshed of the Palo Verdes Peninsula and beach cities of the South Bay, downtown Los Angeles framed by the San Gabriel Mountains, the coastline of Orange County, or Santa Catalina Island. Therefore, with development of the Residential Option, a greater amount of residents within the high-rise would get the opportunity to experience this viewshed. The PD-6 indicates that new development along the south side of Ocean Boulevard have been constructed with generous setbacks and some with outdoor plazas to protect the view potential and preserve the view corridors along the east/west walkway paralleling Ocean Boulevard. As indicated above, the project buildings would be setback approximately 80 feet in compliance with Ordinance C-7848, in order to extend Santa Cruz Park along the project site's frontage along Ocean Boulevard. The PD-6 also does specify that view corridors occur along Pine Avenue, Cedar Street, and Chestnut Street, and south of Shoreline Drive along Aquarium Way and South Pine Avenue. Development of the Residential Option would not obstruct any of the view corridors along these roadways. Therefore, the Residential Option would be consistent with the General Plan Scenic Highway Element, LCP, and the PD-6 designation, resulting in less than significant impacts in this regard.

(ii) Long Beach Municipal Code (LBMC)

Section II.G, of this Draft EIR identifies the project approvals required for development of the Residential Option. As indicated in this section, development of the Residential Option does not require any amendments to the zoning requirements of the project site. In addition, as described above, the project would be required to comply with all development standards including standards for lighting and landscaping, during the project plan approval process. Therefore, impacts under the Residential Option would be less than significant in this regard.

(b) Hotel Options (A and B)

(i) City of Long Beach General Plan

Since the Hotel Options would result in a similar type and density of development within the same building footprints as the Residential Option, it would also not alter the existing conditions of Ocean Boulevard and Shoreline Drive and would instead improve the viewsheds along these scenic routes. Similarly, the Hotel Options would not obstruct any of the visual corridors identified in Attachment A of the PD-6 designation (along Pine Avenue, Cedar Street, and Chestnut Street, and south of Shoreline Drive along Aquarium Way and South Pine Avenue)

and would not alter the existing viewshed southward from Ocean Boulevard. In addition, since the Hotel Options would also include high-rise residential buildings, it would provide views to an increased number of residents of the Palo Verdes Peninsula and beach cities of the South Bay, downtown Los Angeles framed by the San Gabriel Mountains, the coastline of Orange County, or Santa Catalina Island. The Hotel Options would also include an 80-foot setback to preserve the view corridors along the east/west walkway paralleling Ocean Boulevard and extend Santa Cruz Park along the project site's frontage along Ocean Boulevard. Finally, the Hotel Options would not obstruct any of the view corridors occur along Pine Avenue, Cedar Street, and Chestnut Street, and south of Shoreline Drive along Aquarium Way and South Pine Avenue. Therefore, the Hotel Options would be consistent with the General Plan Scenic Highway Element, LCP, and the PD-6 designation, resulting in less than significant impacts in this regard.

(ii) Long Beach Municipal Code (LBMC)

Section II.G, of this Draft EIR identifies the project approvals required for development of the Hotel Options. As indicated in this section, development of the Hotel Options does not require any amendments to the zoning requirements of the project site. In addition, as described above, the project would be required to comply with all development standards including standards for lighting and landscaping, during the project plan approval process. Therefore, impacts under the Hotel Options would be less than significant in this regard.

4. CUMULATIVE IMPACTS

a. Residential Option, Hotel Option A, and Hotel Option B

Section III of this Draft EIR identifies 19 related projects that are anticipated to be developed within the vicinity of the project site. While not all of the related projects are in the immediate vicinity of the project site, eight of the related projects are located within one-half mile of the project site, so as to potentially cause cumulative visual impacts as indicated in Table IV.A-1 on page IV.A-43. The proposed project in combination with the related projects would introduce new aesthetic elements as part of new development in the project area. As part of an existing urban environment, it has been anticipated that the project and future development in the project vicinity would add to the emerging mixed-use character and growth in the community. In keeping with the surrounding urban conditions, the seven related projects and the project would not be out of scale or character with the existing visual environment. Thus, when considering that the project under the Residential Option, Hotel Option A, and Hotel Option B would not result in significant impacts, cumulative impacts with regard to visual character would be less than significant.

Table IV.A-1

Related Projects Within One-Half Mile of the Project Site[b]

Map No. [a]	Location	Land Use	Distance from Project Site (miles)
1	432-440 W. Ocean Blvd.	107 apartments	0.3 east
2	110 W. Ocean Blvd.	82 hotel rooms	0.5 east
5	150 W. Ocean Blvd	216 condominiums	0.5 east
10	25 S. Chestnut Place	246 condominiums	0.3 east
12	285 Bay Street	138 hotel rooms	0.5 southeast
13	421 W. Broadway	291 apartments; 15,580 s.f. commercial	0.3 northeast
18	New Long Beach Court House	450,000 s.f. courtrooms; 75,000 s.f. office; 20,000 s.f. retail	0.2 north
19	Hotel Sierra	125 hotel rooms	0.4 southeast

[a] *Corresponds with Map Nos. on Figure III-1 in Section III of this Draft EIR.*
[b] *As measured from the intersection of Golden Shore and Ocean Boulevard.*

Source: PCR Service Corporation, 2009.

In regards to views, as previously described, the LCP and PD-6 descriptions identify Pine Avenue, Cedar Street, and Chestnut Street, and south of Shoreline Drive along Aquarium Way and South Pine Avenue as view corridors and along Ocean Boulevard from Alamitos Avenue to Bixby Park as a scenic route. Related Projects No. 10 and No. 1 would be developed east and west of Chestnut Place, respectively, Related Projects No. 12 and No. 19 would both be developed east of Cedar Avenue, and Related Project No. 2 would be developed west of Pine Avenue. However, as just described, these related project would be developed east and west of the identified view corridors and therefore, would not obstruct the views southward down the roadways to the visual resources. In addition, Related Projects No. 1, No. 2, No. 5, No. 10, and No. 19 would all be developed south of Ocean Boulevard. However, all of these projects represent infill projects, which would be replacing existing development that already obstructs views from Ocean Boulevard. Therefore, since development of the proposed project in combination with the related projects would not obstruct any view corridors and visual resources that are currently visible, cumulative impacts to views would be less than significant under the Residential Option, Hotel Option A, and Hotel Option B.

The project would increase ambient light levels in the project area. Development of the project as well as the other related projects would introduce new or expanded sources of artificial light. Because the project and related projects represent in-fill development that would replace existing uses, the cumulative lighting impact would not increase the ambient light levels in the area. In addition, even though cumulative development may result in an increase in density of development in the area, the increase in ambient lighting would not be out of character with the urban setting and densely built environment within the downtown area and immediate locale. In addition, new light sources would be utilized in a manner that would minimize or eliminate such

nighttime illumination impacts to sensitive receptors such as residences or motorists. Additionally, the regulations set forth in the LBMC restrict the use and wattage of certain light sources that would be incompatible with existing community standards. Therefore, the lighting under the Residential Option, Hotel Option A, and Hotel Option B and related projects would not exceed the established thresholds of significance. As a result, cumulative artificial light impacts would be less than significant.

With regard to glare, it is anticipated that related projects within the vicinity of the project site have been reviewed and approved to ensure that building materials to be utilized would not create significant glare impacts. As such, cumulative glare impacts under the Residential Option, Hotel Option A, and Hotel Option B are concluded to be less than significant.

Development of the Residential Option, Hotel Option A, and Hotel Option B would not cast new shadows on off-site shadow-sensitive uses. In addition, while related projects would cast a variety of shadows in the area, none of the related projects would be located near enough to cumulatively contribute to shade impacts on these sensitive receptors since they would be located at such a distance and intervening development would obstruct their shadows onto the Hilton Hotel and Santa Cruz Park. Finally, it is also due to the distance and intervening development that the related projects would not shade contiguous areas of the project site. Therefore, shade impacts would not be cumulatively significant.

5. MITIGATION MEASURES

a. Residential Option, Hotel Option A, and Hotel Option B

Mitigation Measure A-1: Temporary fencing with screening material shall be used to buffer views of construction equipment and materials, when feasible.

Mitigation Measure A-2: All new street and pedestrian lighting shall be shielded and directed away from any light-sensitive off-site uses.

Mitigation Measure A-3: Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

a. Residential Option, Hotel Option A, and Hotel Option B

Development of the proposed project would result in less than significant impacts in regards to visual quality, views, light/glare, and shade/shadows. However, impacts regarding visual quality during construction activities would be potentially significant without the incorporation of mitigation measures. Therefore, Mitigation Measure A-1 is included to reduce visual quality impacts during construction to a less than significant level. In addition, while light and glare impacts are concluded to be less than significant with compliance with the LBMC, Mitigation Measures A-2 and A-3 are included to ensure impacts remain below a level of significance.

IV. ENVIRONMENTAL IMPACT ANALYSIS
B. AIR QUALITY

1. INTRODUCTION

This section addresses potential impacts associated with air emissions generated by construction and operation of the proposed project, as well as impacts associated with wind effects on future residents, employees, and visitors on-site. The analysis also addresses the consistency of the proposed project with the air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan. The analysis of project-generated air emissions focuses on whether the proposed project would cause an exceedance of an ambient air quality standard or SCAQMD significance threshold.[1] In addition, the analysis of project emissions addresses potential impacts to global climate change and toxic air emissions in the region.

2. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Regional Context

The proposed project is located within the South Coast Air Basin (Basin), an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. Its terrain and geographical location determine the distinctive climate of the Basin, as the Basin is a coastal plain with connecting broad valleys and low hills.

The southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as

[1] *Emissions estimation worksheets are provided in Appendix B of this EIR.*

man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Basin, making it an area of high pollution potential.

The greatest air pollution impacts throughout the Basin occur from June through September. This condition is generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing. This frequently reduces pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season, and time of day. Ozone concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Basin and adjacent desert. Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California.

The SCAQMD has released the final report of the third round of its Basin-wide Multiple Air Toxics Exposure Study (MATES III).[2] MATES III represents one of the most comprehensive air toxics studies ever conducted in an urban environment. The study was aimed at estimating the cancer risk from toxic air emissions throughout the Basin by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize health risks in the Basin. MATES III focused on carcinogenic risk from air toxics, and did not estimate other health effects from particulate exposures. Based on average measurements at ten fixed monitoring sites, the study estimated 70-year lifetime carcinogenic risk from air pollution in the Basin to be approximately 1,200 in one million. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors. Approximately 84 percent of the overall risk was attributed to diesel particulate emissions, approximately 10 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately six percent to stationary sources (which include industries and other certain businesses, such as dry cleaners and chrome plating operations).[3]

As part of MATES III, the SCAQMD has prepared an interactive map[4] that shows estimated inhalation cancer risks in the Basin from ambient levels of air toxics, as part of an ongoing effort to provide insight into relative risks. When accessed via the Internet, the map displays estimated risks for discrete two-kilometer-by-two-kilometer grid cells. The map's estimates assume 70-year lifetime exposure to the annual average levels estimated by the

---

[2] *http://aqmd.gov/prdas/matesIII/MATESIIIFinalReportSept2008.html, accessed November 2008.*

[3] *SCAQMD, MATES-III Final Report, Executive Summary, http://aqmd.gov/prdas/matesIII/Final/Document/-ab-MATESIIIExecutiveSummary-Final92008.pdf, accessed November 2008.*

[4] *http://www2.aqmd.gov/webappl/matesiii, accessed November 2008.*

MATES III model.[5] Figure IV.B-1 on page IV.IV.B-4 shows two annotated screen captures from the map: (a) an overview showing much of the urbanized area of central and south Los Angeles County, with the grid cell containing the project location highlighted, and (b) a close-up showing two adjacent grid cells and the project location. Figure IV.B-1(a) shows that the project is in a grid cell with an estimated risk of from 1,200 to 3,700 in one million, and is estimated to have the highest air toxics cancer risks due to its proximity to the ports. Figure IV.B-1(b) shows that the project is located near the northwest corner of a grid cell that, as indicated by a pop-up information box, has an estimated carcinogenic risk of 2,350 per million. In general, on- and off-road mobile sources represent the greatest contributors to the overall risk. The MATES III data and map indicate an increased cancer risk associated with living in urbanized areas of the region, especially near highways and the ports, where the cancer risk ranges from 500 to 3700 in one million, as compared to the outlying areas of the Basin, where the cancer risk ranges from 30 to 500 in one million.

(2) Local Area Conditions

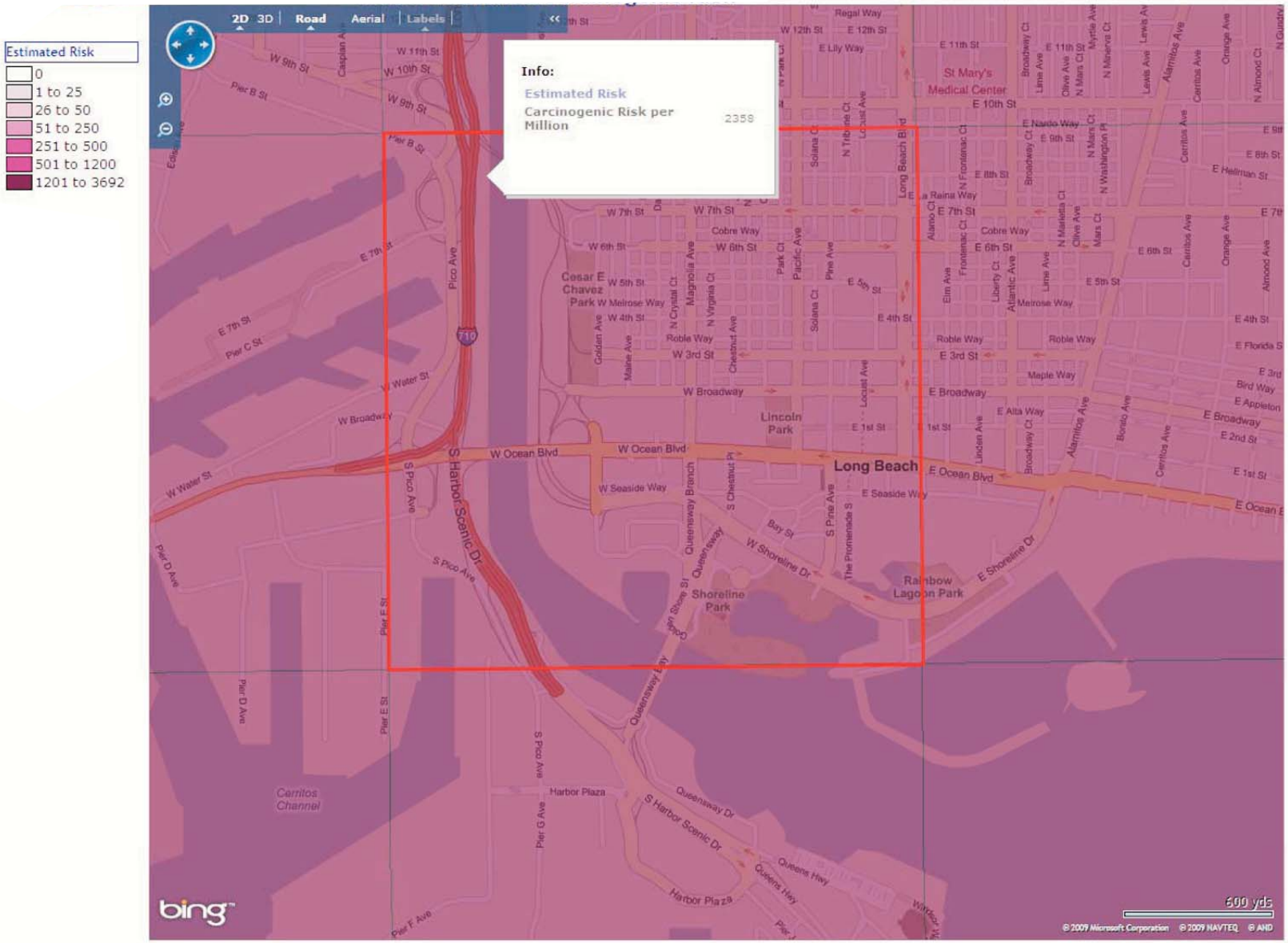
(a) Existing Pollutant Levels at Nearby Monitoring Stations

The SCAQMD maintains a network of air quality monitoring stations located throughout the South Coast Air Basin and has divided the Basin into air monitoring areas. The project site is located within the "Coastal" air monitoring area. The monitoring station most representative to the project site is South Long Beach Monitoring Station (South Coastal Los Angeles County), which is located at 1305 East Pacific Coast Highway, approximately 1.61 miles northeast of the project site. Criteria pollutants monitored at this station include O_3, CO, and NO_2, SO_2, $PM_{2.5}$ and PM_{10}. The most recent data available from these monitoring stations encompasses the years 2003 to 2007. The data, shown in Table IV.B-1 on pages IV.IV.B-5 and IV.B-8, show the following pollutant trends:

Ozone, O_3.

The maximum 1-hour O_3 concentration recorded at the monitoring station during the 2003-2007 period was 0.099 parts per million (ppm), recorded in 2007. During this period, the California standard was exceeded between 1 to 341 days annually and the national standard was not exceeded . The maximum 8-hour O_3 concentration was 0.075 ppm, recorded during 2007. The monitoring station found O_3 concentrations above the California 8-hour ozone standard of 0.070 ppm between O_3 concentration and O_3 concentration days annually, the only years for

[5] *http://www.aqmd.gov/prdas/matesIII/risk.html, accessed November 2008*.



PCR

Source: Multiple Air Toxic Exposure Study III Model Estimated Carcinogenic Risk, 2009.

Figure IV.B-1
Estimated Inhalation Cancer Risk for South Coastal Los Angeles County

Table IV.B-1

Pollutant Standards and Ambient Air Quality Data from Representative Monitoring Stations

Pollutant Standard and Data	**2003**	**2004**	**2005**	**2006**	**2007**
Ozone					
1-Hour: C=0.09 ppm; N=0.12 ppm [a]					
Max. Concentration (ppm)	0.063	0.090	0.091	0.080	0.099
Days > California Standard	341	0	0	0	1
Days > National Standard [a]	--	0	0	0	0
8-Hour: C=0.070 ppm; N=0.08 ppm [b]					
Max. Concentration (ppm)	0.071	0.075	0.068	0.068	0.073
4th Highest 8-hour Conc. (ppm)	0.063	0.071	0.059	0.058	0.056
Days > California Standard [c]	0	0	0	0	1
Days > National Standard [b]	0	0	0	0	0
Particulate Matter (PM_{10})					
24-Hour: C=50 µg/m^3; N=150 µg/m^3 [d]					
Max. Concentration (µg/m^3)	63	83	131	117	123
% of Samples [e] *> Calif. Standard*	4	12	18	19	17
% of Samples [e] *> National Standard*	0	0	0	0	0
Annual: C=20 µg/m^3; N=50 µg/m^3 [f]					
Annual Arithmetic Mean (µg/m^3)	32.8	38.1	43.4	45	41.7
> California Standard?	Yes	Yes	Yes	Yes	Yes
> National Standard?	No	No	No	No	No
Particulate Matter ($PM_{2.5}$)					
24-Hour: N=65 or 35 µg/m^3 [g]					
Max. 24-hour Concentration (µg/m^3)	115.2	59.7	37.8	53.6	68.0
% of Samples [h] *> National Standard* [g]	3	0	0	0	6
Annual: C=12 µg/m^3; N=15 µg/m^3 (AAM)					
Annual Arithmetic Mean (µg/m^3)	18.0	16.6	14.7	14.5	13.7
> California Standard?	Yes	Yes	Yes	Yes	Yes
> National Standard?	Yes	Yes	No	No	No

Table IV.B-2 (Continued)

Pollutant Standards and Ambient Air Quality Data[a]

Pollutant Standard and Data	**2003**	**2004**	**2005**	**2006**	**2007**
Carbon Monoxide					
1-Hour: C=20 ppm; N=35 ppm					
Max. Concentration (ppm)	6	4	4	4	3
Days > California Standard	0	0	0	0	0
Days > National Standard	0	0	0	0	0
8-Hour: C=9 ppm[i]; N=9 ppm					
Max. Concentration (ppm)	4.7	3.4	3.5	3.4	2.6
Days > California Standard[i]	0	0	0	0	0
Days > National Standard	0	0	0	0	0
Nitrogen Dioxide					
1-Hour: C=0.25 ppm					
Max. Concentration (ppm)	0.14	0.12	0.14	0.10	0.11
Days ≥ California Standard	0	0	0	0	0
Annual: C=0.053 ppm					
Annual Arithmetic Mean (ppm)	0.0288	0.0280	0.0241	0.0215	0.207
≥ California Standard?	No	No	No	No	No
Sulfur Dioxide[j]					
1-Hour: C=0.25 ppm					
Max. Concentration (ppm)	0.03	0.04	0.04	0.03	0.11
Days > California Standard	0	0	0	0	0
24-Hour: C=0.04 ppm; N=0.14 ppm[k]					
Max. Concentration (ppm)	0.008	0.012	0.012	0.010	0.11
Days > California Standard	0	0	0	0	0
Days > National Standard	0	0	0	0	0
Annual: N=0.03 ppm					
Annual Arithmetic Mean (ppm)	0	0	0	0.0012	0.0027
> National Standard?	0	0	0	0	0
Lead					
30-Day (Monthly): C=1.5 μg/m^3					
Max. 30-Day Average Conc. (μg/m^3)	0.10	0.02	0.01	0.01	0.02
% of Samples[l] *> Calif. Standard*	0	0	0	0	0
Calendar Quarter: N=1.5 μg/m^3					
Max. Quarterly Avg. Conc. (μg/m^3)	0.05	0.01	0.01	0.01	0.01
% of Samples[l] *≥ National Standard*	0	0	0	0	0

Table IV.B-2 (Continued)

Pollutant Standards and Ambient Air Quality Data[a]

Pollutant Standard and Data	**2003**	**2004**	**2005**	**2006**	**2007**
Sulfate					
24-hour: C=25 μg/m^3	17.8	16.4	16.8	18.8	11.7
Max. 24-hour Concentration (μg/m^3)	0	0	0	0	0
% of Samples[l] > Calif. Standard					

C = California ambient air quality standard; N = national ambient air quality standard; ppm = parts per million;
μg/m^3 = micrograms per cubic meter; N/A = not applicable; -- = not available or not reported.

[a] *The standard was attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm was ≥ 1. As of June 15, 2005, the USEPA revoked the 1-hour ozone standard in all areas except certain areas outside of California.*
[b] *To attain this national standard, the 3-year average of the 4th-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year had to be ≤ 0.08 ppm. Effective May 27, 2008, that value became 0.075 ppm, although the 0.08 ppm standard has remained in effect during transition.*
[c] *The California 8-hour standard for ozone went into effect in 2006.*
[d] *May be exceeded once per year on average over 3 years.*
[e] *At this monitoring station, PM_{10} samples were collected every six days; each reflects a six-day period.*
[f] *The USEPA revoked the national annual PM10 standard, effective December 17, 2006.*
[g] *In September 2006, the 24-hr $PM_{2.5}$ standard was changed from 65 μg/m^3 to 35 μg/m^3. The exceedance data shown here for 2003-2005 relate to the old standard. The 2006 exceedance percentage relates to the new standard.*
[h] *At this monitoring station, $PM_{2.5}$ samples were collected every day.*
[i] *A different 8-hour California CO standard applies in the Lake Tahoe Air Basin.*
[j] *There is a secondary national ambient air quality standard for SO_2 (0.5 ppm, 3-hour average) that is not listed in this table. Secondary standards are for protecting resources other than human health. SO_2 is the only substance for which a secondary standard is different than the primary standard. California does not have the two separate types of ambient air quality standard.*
[k] *May be exceeded once per year.*
[l] *Samples were collected every six days; each reflects a six-day period.*

Source: South Coast Air Quality Management District, Air Quality Data Tables (http://aqmd.gov/smog/-historicaldata.htm); California Air Resources Board.

which 8-hour O_3 data are available. The national standard was exceeded one time annually recorded in 2007.

Particulate Matter, PM_{10}. The highest average 24-hour PM_{10} concentration was 131 μg/m^3, recorded in 2005. During the years 2003-2007, between 4 and 19 percent of the air samples taken at the monitoring station (representing samples collected every six days) showed

concentrations above the California 24-hour average standard for PM_{10}. No sample showed an exceedance of the corresponding national standard. The maximum annual arithmetic mean was 45 $\mu g/m^3$ in 2006. The annual average PM_{10} concentration was above the California standard, but not the national standard, every year.

Particulate Matter, $PM_{2.5}$. The highest 24-hour $PM_{2.5}$ concentration recorded was 115.2 $\mu g/m^3$ in 2003. Between 3 and 6 percent of the air samples (representing between 320 and 344 days, as samples were collected every day) showed concentrations above the year's most stringent national 24-hour average standard for $PM_{2.5}$. (The USEPA lowered the standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006.) The maximum annual arithmetic mean was 18 $\mu g/m^3$ in 2003.

Carbon Monoxide, CO. The highest 1-hour CO concentration recorded in 2003-2007 was 3 ppm in 6. The maximum 8-hour CO concentration was 4.7 ppm in 2003. There were no exceedances of the California or national 1-hour or 8-hour CO standards.

Nitrogen Dioxide, NO_2. The highest 1-hour NO_2 concentration was 0.14 ppm, recorded in 2003 and 2004. The highest annual arithmetic mean was 0.0288 ppm in 2003.

Sulfur Dioxide, SO_2. The highest 1-hour concentration of SO_2 was 0.11 ppm, recorded in 2007. The maximum 24-hour concentration was 0.012, recorded in 2004. The arithmetic annual average concentration was 0.0012 ppm in 2006 and 0.0027 ppm in 2007, the only years for which annual averages are available. There were no exceedances of California or national standards.

Lead, Pb. The highest 30-day and calendar quarter concentrations of lead in 2003-2007 were 0.10 $\mu g/m^3$, recorded in 2003 and 0.05 in 2003.[6] The Basin is currently in compliance with California and national standards for lead and monitoring for lead is not conducted at all stations. It should be noted that the primary sources of atmospheric lead, leaded gasoline and lead-based paint, are no longer commercially available in the Basin due to regulations.

Sulfates. Samples were collected every six days. The highest (six-day average) 24-hour NO_2 concentration in 2003-2007 was 18.8 $\mu g/m^3$, recorded in 2006. There were no exceedances of the California standard.[7]

---

[6] *As of this writing, "Due to technical difficulties," lead data for 2007 were not yet available. SCAQMD, 2007 Air Quality: http://www.aqmd.gov/smog/AQSCR2007/aq07card.pdf, accessed July 2008.*

[7] *As of this writing, "Due to technical difficulties," sulfate data for 2007 were not yet available. SCAQMD, 2007 Air Quality: http://www.aqmd.gov/smog/AQSCR2007/aq07card.pdf, accessed July 2008.*

Visibility Reducing Particles. The Basin is currently designated as "unclassified" with respect to the State standard for visibility reducing particles. Continuous monitoring is not currently performed within the Basin for this standard.

Hydrogen Sulfide. The Basin is currently designated as "unclassified" with respect to the State standard for hydrogen sulfide. The California Air Resources Board (CARB) does not perform or require ambient monitoring of this pollutant.

Vinyl Chloride. The Basin is currently designated as "unclassified" with respect to the State standard for vinyl chloride. In 1990 the CARB identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the CARB does not perform or require ambient monitoring for this pollutant.

(b) Greenhouse Gases

Greenhouse gases (GHGs) are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. Specifically, these gasses allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. GHGs include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Carbon dioxide is the most abundant GHG in the atmosphere. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. Existing criteria pollutant and GHG emissions from the project site are calculated in the operational impacts discussion section.

(c) Existing Emissions

The project site currently contains commercial uses. Emissions from such uses include criteria pollutants such as volatile organic compounds (VOCs), CO, NO_X, SO_2, PM_{10} and $PM_{2.5}$ as well as GHGs as mentioned above. An inventory of existing criteria pollutant emissions on the project site is presented in the Operational Impacts Analysis section below.

(d) Existing Health Risk in the Surrounding Area

As shown in Figure IV.B-1, the project site is located within an estimated ambient air toxics cancer risk zone of 1,200 to 3,700 in one million, in a map grid cell with an estimated risk of 2,350 per million. However, the risk estimate grid resolution available in the map is 2

kilometers by 2 kilometers and impacts from individual facilities for individual neighborhoods are not discernable on this map.

(e) Sensitive Receptors and Locations

Some population groups, referred to as sensitive receptors, including children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to air pollution than others. Sensitive land uses are those most frequently used by sensitive receptors, including homes, schools, hospitals and care facilities. Sensitive land uses in the project vicinity are shown in Figure IV.B-2 on page IV.B-11 and consist of mainly residential uses. The closest sensitive receptors include the following:

- North of Project Site: A school is located on Broadway approximately 800 feet north of the project site. Single- and multifamily residential uses are located along 3rd Street approximately 1,200 feet north of the project site.

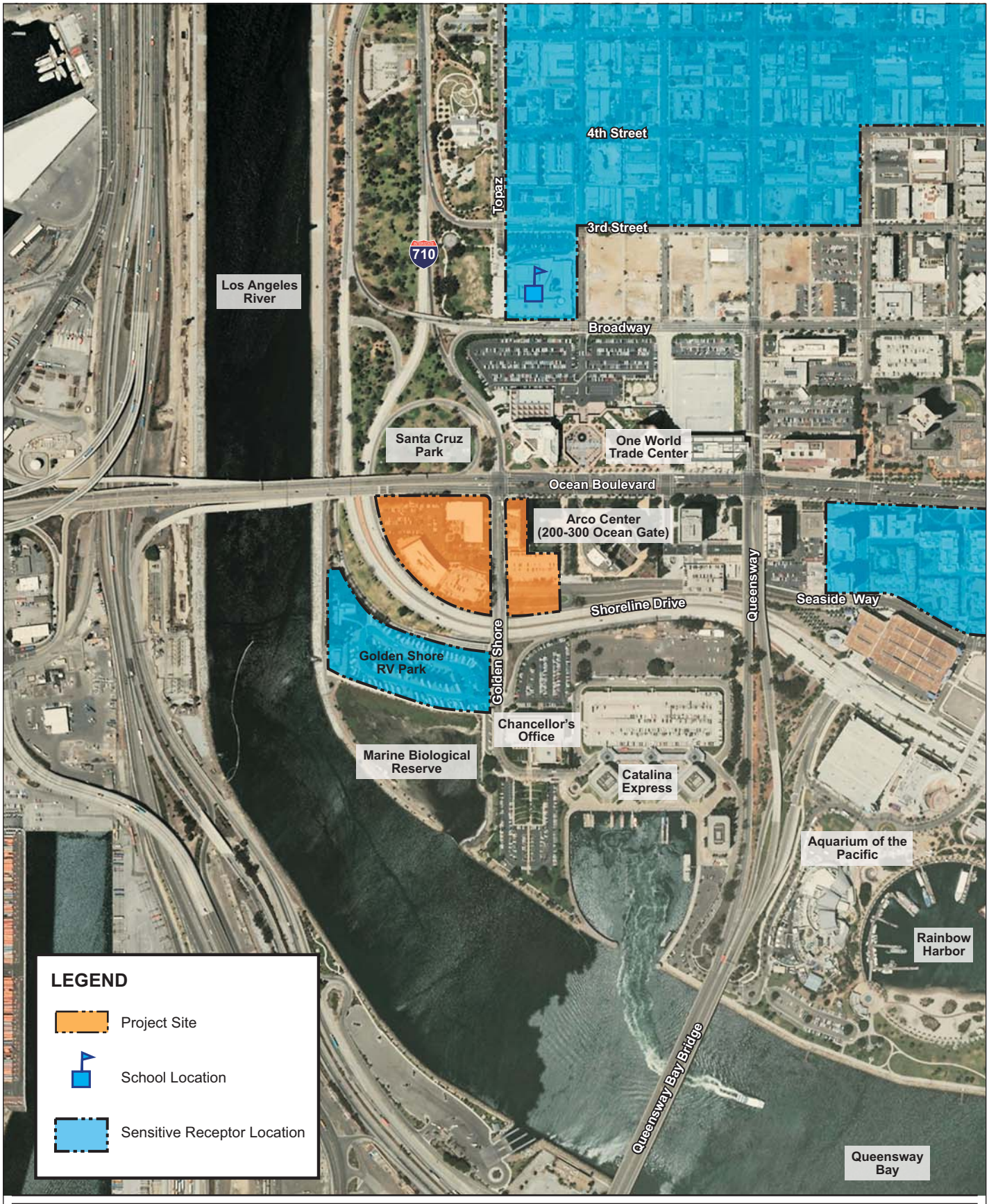
- South of Project Site: Golden Shore RV Park is located on Golden Shore approximately 200 feet south of the project site.

- East of Project Site: Multi-family residential uses are located along Seaside Way approximately 1,200 feet east of the project site.

(f) Existing Wind Environment

According to the Long Beach General Plan Air Quality Element, predominant daily winds in the Long Beach area consist of morning on shore air flow from the southwest at a mean speed of 7.3 miles per hour, and afternoon and evening off-shore air flow from the northwest at 0.2 to 4.7 miles per hour with little variability between seasons. Summer wind speeds average slightly higher than winter wind speeds. The prevailing winds carry air flows northward and then eastward over Whittier, Covina, Pomona and Riverside during daylight hours.

The daytime sea breezes and nighttime land breezes or drainage flows dominate the wind patterns during the dry summer months, and result in air currents being pushed up against the San Gabriel and San Bernardino Mountains. During the winter rainy season the sea-land regime is broken by wind flows associated with storms moving through the area from the northwest, and by Santa Ana wind conditions. Santa Ana conditions occur when a large high pressure system builds over the Great Basin, and the system pushes air southward over the San Gabriel and San Bernardino Mountains, into the Los Angeles Basin, and then out to sea. The air is warmed by compression as it descends the mountainsides into the basin. Sustained wind speeds of 10-60 miles per hour, with higher gusts, are not uncommon, resulting in increased pollution dispersion and transport out to sea.



PCR

Figure IV.B-2
Closest Sensitive Receptor Locations

Source: PCR Services Corporation, 2009; Google Earth, 2008.

Empirical wind data from the project area indicate that winds during the summer season (May through October) are primarily out of the south and west-northwest, with secondary winds out of the west and northwest. During the winter season (November through April), winds are dominated by winds out of the south and west through northwest directions. Based on "gust equivalent mean wind speed" data, it is estimated that on average calm winds occur approximately 17 percent of the time in summer and approximately 24 percent of the time in winter.

b. Regulatory Framework

A number of statutes, regulations, plans, and policies have been adopted that address air quality issues. The proposed project site and vicinity are subject to air quality regulations developed and implemented at the federal, state, and local levels. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of the Federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile source and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies.

(1) Federal Clean Air Act

The CAA was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent major amendments having been enacted in 1990. The CAA requires national air quality standards, known as National Ambient Air Quality Standards (NAAQS) (see Table IV.B-2) and specifies dates for achieving compliance.

The CAA establishes federal air quality standards, known as NAAQS and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The project site is within the Basin, which is an area designated as non-attainment as the area does not meet NAAQS for certain pollutants regulated under the CAA.

The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA which are most applicable to the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).

Title I requirements are implemented for the purpose of attaining NAAQS for the following criteria pollutants: (1) ozone (O_3); (2) nitrogen dioxide (NO_2); (3) sulfur dioxide

(SO_2); (4) particulate patter (PM_{10}); (5) carbon monoxide (CO); and (6) lead (Pb). Table IV.B-2 on pages IV.B-14 through IV.B-15 shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were amended in September 2006 to include an established methodology for calculating $PM_{2.5}$ as well as revoking the annual PM_{10} threshold. The NAAQS were amended in July 1997 to include an 8-hour standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. The Basin fails to meet national standards for CO, O_3, PM_{10}, and $PM_{2.5}$ and therefore is considered a federal "non-attainment" area for these pollutants. Although the Basin has technically met the CO attainment standards since 2002, the USEPA has not yet approved the SCAQMD's request for re-designation and is therefore still classified as "non-attainment". The CAA sets certain deadlines for meeting the NAAQS within the Basin including the following: (1) 1-hour O_3 by the year 2010; (2) 8-hour O_3 by the year 2024; (3) PM_{10} by the year 2006; and (4) $PM_{2.5}$ by the year 2015. Nonattainment designations are categorized into seven levels of severity: (1) basic, (2) marginal, (3) moderate, (4) serious, (5) severe-15, (6) severe - 17, and (7) extreme.[8] On June 11, 2007, the USEPA reclassified the Basin as a federal "attainment" area for CO and approved the Basin's CO maintenance plan.[9] It should be noted that the Basin met the PM_{10} standards in 2006 at all stations except for western Riverside.[10] The Basin fails to meet national standards for O_3, PM_{10}, and $PM_{2.5}$ and therefore is considered a Federal "non-attainment" area for these pollutants. Table IV.B-3 on page IV.B-16 lists the criteria pollutants and their relative attainment status.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

(2) California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. Table IV.B-2 shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the State. As shown in Table IV.B-2, the CAAQS include more stringent standards than the NAAQS for most of the criteria air pollutants.

---

[8] *The "-15" and "-17" designations reflect the number of years within which attainment must be achieved.*

[9] *"Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California, Final Rule." Federal Register 72 (11 May 2007):26718-26721*

[10] *South Coast Air Quality Management District, Draft 2007 AQMP.*

Table IV.B-2

Ambient Air Quality Standards [a]

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Ozone ($O^{3)}$)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3		15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead (Pb) [h]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		0.15 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption

Table IV.B-2 (Continued)

Ambient Air Quality Standards [a]

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.			**No Federal Standards**	
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [h]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

[a] *California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter (PM_{10}, and $PM_{2.5}$) and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*

[b] *National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current federal policies.*

[c] *Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.*

[d] *Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board (CARB) to give equivalent results at or near the level of the air quality standard may be used.*

[e] *National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.*

[f] *National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

[g] *Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.*

[i] *CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

Source: California Air Resources Board (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, dated 06/22/08), and U.S. Environmental Protection Agency (http://www.epa.gov/air/criteria.html and http://www.epa.gov/air/lead/pdfs/20081015_pb_naaqs_final.pdf [see "FR Notices" at http://www.epa.gov/ttn/naaqs/standards/pb/s_pb_index.html], accessed October 2008]).

In general, the California standards are more health protective than the corresponding NAAQS. In addition, CARB has established standards for other pollutants recognized by the State, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Table IV.B-3

South Coast Air Basin Attainment Status

Pollutant	National Standards	California Standards
Ozone (1-hour standard)	N/A [a]	Non-attainment
Ozone (8-hour standard)	Extreme	N/A
Carbon Monoxide	Attainment	Attainment [b]
Nitrogen Dioxide	Attainment [b]	Attainment [b]
Sulfur Dioxide	Attainment [b]	Attainment [b]
PM_{10} (24-hour standard)	Serious	Non-attainment
PM_{10} (annual standard)	N/A [c]	Non-attainment
$PM_{2.5}$	Serious	Non-attainment
Lead	Attainment [b]	Attainment [b]
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment [b]
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride	N/A	N/A [d]

N/A = not applicable

[a] *The NAAQS for 1-hour ozone was revoked on June 15, 2005 for all areas except Early Action Compact areas.*

[b] *An air basin is designated as being in attainment for a pollutant if the standard for that pollutant was not violated at any site in that air basin during a three year period.*

[c] *The NAAQS for annual PM_{10} was revoked on September 21, 2006.*

[d] *In 1990 the CARB identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the CARB does not monitor or make status designations for this pollutant.*

Source: USEPA Region 9 and California Air Resources Board, 2007.

Table IV.B-3 provides a summary of the Basin's attainment status with respect to state standards. The Basin is designated as attainment for the California standards for sulfates, and unclassified for hydrogen sulfide and visibility-reducing particles. Because vinyl chloride is a carcinogenic toxic air contaminant, the CARB does not classify attainment status for this pollutant.

(3) California Air Resources Board Air Quality and Land Use Handbook

CARB published a draft version of the *Air Quality and Land Use Handbook* on February 17, 2005, to serve as a general guide for considering impacts to sensitive receptors from facilities that emit toxic air contaminant (TAC) emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some

examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) Avoid siting sensitive receptors immediately downwind of ports in the most heavily impacted zones; (3) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (4) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene, and for operations with two or more machines provide 500 feet. The project site is located approximately 1,500 feet from the Port of Long Beach. Since ports vary in size and intensity of operations, CARB does not provide a recommended separation distance between ports and sensitive receptors. Instead, CARB recommends consulting the local air agency (SCAQMD) for site specific health risk assessments.

(4) California Air Resources Board Emission Control Measures

In 2004, CARB adopted a control measure to limit commercial heavy duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter (DPM) and other air contaminants.[11] The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. In general, it prohibits idling for more than 5 minutes at any location.

In addition to limiting exhaust from idling trucks, CARB promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. A CARB regulation that became effective on June 15, 2008, aims to reduce emissions by installation of diesel soot filters and encouraging the replacement of older, dirtier engines with newer emission controlled models.[12] A prohibition against acquiring certain vehicles began on March 1, 2009, and a reporting requirement started on April 1, 2009. Implementation of some provisions is staggered based on fleet size, with the largest operators to begin compliance in 2010. By 2020, CARB estimates that DPM will be reduced by 74 percent and smog forming NO_X (another important pollutant emitted from diesel engines) by 32 percent, compared to what emissions would be without the regulation.

---

[11] *Calif. Code of Regulations, Title 13, Sec. 2485. See http://www.arb.ca.gov/regact/idling/idling.htm (accessed July 2008).*

[12] *Calif. Code of Regulations, Title 13, Secs. 2449, 2449.1, 2449.2 and 2449.3. See http://www.arb.ca.gov/regact/-2007/ordiesl07/ordiesl07.htm (accessed July 2008).*

(5) South Coast Air Quality Management District

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Basin is a subregion of the SCAQMD jurisdiction. While air quality in this area has improved, the Basin requires continued diligence to meet air quality standards.

The SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the CAAQS and NAAQS. The 2007 AQMP employs the most up-to-date science, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. Policies and measures currently contemplated by responsible agencies to achieve federal standards for healthful air quality in the Basin are built upon in the 2007 AQMP Plan. It also incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources and area sources.

The 2007 AQMP Plan builds upon improvements accomplished from previous plans, and aims to incorporate all feasible control measures while balancing costs and socioeconomic impacts for the attainment of air quality standards. However, it highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under federal Clean Air Act.

The 2007 AQMP relies on a comprehensive and integrated control approach aimed at achieving the $PM_{2.5}$ standard by 2015 through implementation of short-term and mid-term control measures and achieving the 8-hour ozone standard by 2024 based on implementation of additional long-term measures. These reductions are expected to be achieved through implementation of new and advanced control technologies as well as improvement of existing control technologies. Control techniques requiring substantial levels of committed funding for implementation would also fall under this category of long-term emission reductions. The 2007 AQMP control measures consist of four components: (1) the District's Stationary and Mobile Source Control Measures; (2) CARB's Proposed State Strategy; (3) District Staff's Proposed Policy Options to Supplement CARB's Control Strategy; and (4) Regional Transportation Strategy and Control Measures provided by Southern California Association of Governments (SCAG). Overall, the Plan includes 31 stationary and 30 mobile source measures. The District's control strategy for stationary and mobile sources is based on the following approaches: (1) facility modernization; (2) energy efficiency and conservation; (3) good management practices;

(4) market incentives/compliance flexibility; (5) area source programs; (6) emission growth management; and (7) mobile source programs.

The SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to construction or operation of the project. For example, SCAQMD Rule 403 requires the implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. The full text of SCAQMD Rule 403 is included in Appendix B of this Draft EIR.

The SCAQMD published the *CEQA Air Quality Handbook* (the Handbook) in November 1993 to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the Handbook with the Air Quality Analysis Guidance Handbook. While this process is underway, the SCAQMD recommends that the lead agency avoid using the screening tables in the Handbook's Chapter 6, because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory, and the trip generation characteristic of the land uses identified in these screening tables were based on the fifth edition of the ITE Trip Generation Manual, instead of the most current eighth edition. Additionally, the lead agency should avoid using the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L. The SCAQMD instead recommends using other approved models to calculate emissions from land use projects, such as the URBEMIS 2007 model.[13]

In addition, the SCAQMD has published a guidance document called the *Localized Significance Threshold Methodology for CEQA Evaluations* (June 2003) that is intended to provide guidance in evaluating localized effects from mass emissions during construction. This document was also used in the preparation of this analysis. Recently, the SCAQMD adopted additional guidance regarding $PM_{2.5}$ in a document called *Final-methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds* (October 2006).

The SCAQMD has also adopted land use planning guidelines in the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (May 2005), which also considers impacts to sensitive receptors from facilities that emit TAC emissions. SCAQMD's distance recommendations are the same as those provided by CARB (e.g. a 500-foot siting distance for sensitive land uses proposed in proximity of freeways and high-traffic roads, and the

[13] http://www.aqmd.gov/ceqa/oldhdbk.html.

same siting criteria for distribution centers and dry cleaning facilities). Similar to CARB recommendations, the SCAQMD guidance document does not provide a specific recommendation on separation distance between ports and sensitive receptors. As mentioned previously, the project site is located approximately 1,500 feet from the Port of Long Beach. The most recent health risk assessment for the Port of Long Beach (Middle Harbor) demonstrates that the project site is located within the 100 in one million incremental cancer risk increase contour. The SCAQMD document introduces land use related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

(6) Regional Comprehensive Plan and Guide

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. As the designated MPO, SCAG is mandated by the federal government to develop and implement regional plans that address transportation, growth management, hazardous waste management, and air quality issues. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) for the SCAG region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation components of the AQMP and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQMP.

(7) City of Long Beach

As there exists an overlap between land use and GHG emissions, the City of Long Beach has developed interim Green Building Requirements for Private Development that apply to all new projects that include at least 50 dwelling units or 50,000 square feet of building area. The policy uses the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED™) Green Building Rating System as the standard for which a project will be measured as a green building. Projects must register with the USGBC with the intent of achieving a minimum of the "Certified" level or provide third party verification that they meet the minimum requirements of LEED™ certification.

(8) Global Climate Change

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena,

however some data indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) emissions of GHGs is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. There continues to be significant scientific uncertainty concerning the extent to which increased concentrations of GHGs have caused or will cause climate change, and over the appropriate actions to limit and/or respond to climate change.

As mentioned previously, GHGs include CO_2, CH_4, O_3, water vapor, N_2O, HFCs, PFCs, and SF_6.[14] Carbon dioxide is the most abundant GHG in the atmosphere. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the equivalent mass of CO_2, denoted as CO_2e. Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[15] These GWP ratios are available from the USEPA and published in the California Climate Action Registry (CCAR) General Reporting Protocol. By applying the GWP ratios, project related CO_2e emissions can be tabulated in metric tons per year. The CO_2e values are calculated for construction years as well as existing and project build-out conditions in order to generate a net change in GHG emissions for construction and operation.

Construction output values used in this analysis are adjusted to represent a CO_2e value representative of CO_2, CH_4, and N_2O emissions from project construction activities. HFCs, PFCs, and SF6 are not byproducts of combustion, the primary source of construction-related GHG emissions, and therefore are not included in the analysis. Construction CH_4 and N_2O values are derived from factors published in the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. These values are then converted to metric tons of CO_2e for consistency.

---

[14] *Recently, some groups have advocated for the inclusion of "black carbon" in analyses of climate change under CEQA. However, the vast majority of current authoritative climate change sources fail to even list black carbon as a GHG, much less one that should be analyzed under CEQA. See Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998)(identifying six greenhouse gases, without mentioning black carbon); California Assembly Bill 32, Global Warming Solutions Act of 2006, State of California (2006) (defining greenhouse gases as only those listed in the Kyoto Protocol); ARB, Climate Change Draft Scoping Plan (2008)(presenting draft plan to lower California's GHG emissions, without mentioning black carbon); Center for Biological Diversity, The California Environmental Quality Act – On the Front Lines of California's Fight Against Global Warming (2007) (failing to list black carbon as a GHG which should be addressed under CEQA). As such, black carbon is not analyzed herein.*

[15] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

Our understanding of the fundamental processes responsible for global climate change has improved over the past decade, and our predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system, the uncertainty surrounding climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it is impossible to label a single development project as the cause of future specific climate change impacts.

The IPCC, in its Fourth Assessment Report (FAR), stated that "it is likely that there has been significant anthropogenic warming over the past 50 years."[16] However, it is impossible to identify a single development project as the cause of future specific climate change impacts due to the global nature of climate change. Also in the FAR, the IPCC holds that the impacts of future climate change will vary across regions. While "large-scale climate events have the potential to cause very large impacts," the impacts of future climate change will be mixed across regions.

On May 19, 2009, President Obama announced a new federal policy "aimed at both increasing fuel economy and reducing greenhouse gas pollution for all new cars and trucks sold in the United States." The policy proposes fuel efficiency standards that would apply to model years 2012 through 2016. These standards would be more aggressive than the federal Corporate Average Fuel Economy (CAFE) standards and would result in a reduction of approximately 900 million metric tons of GHG.

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the State. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. It should be noted that setting emission standards on automobiles is solely the responsibility of the federal EPA. The federal CAA allows States to set state-specific emission standards on automobiles if they first obtain a waiver from the USEPA. The USEPA denied California's request for a waiver, thus delaying

[16] *Intergovernmental Panel on Climate Change, Fourth Assessment Report, Summary for Policy Makers, 2007.*

CARB's proposed implementation schedule for setting emission standards on automobiles to help reduce GHGs.

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions targets for the state, as well as a process to ensure the targets are met. The order directed the Secretary for California EPA to report every two years on the State's progress toward meeting the Governor's GHG emission reduction targets. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California EPA, was formed. The CAT is made up of representatives from a number of State agencies and was formed to implement global warming emission reduction programs and reporting on the progress made toward meeting statewide targets established under the Executive Order. State agency members include the Business, Transportation and Housing Agency; Department of Food and Agriculture; Resources Agency; Air Resources Board; California Energy Commission; the Public Utilities Commission; and Department of Water Resources. The CAT published its *Climate Action Team Report to Governor Schwarzenegger and the Legislature* in March 2006, in which it laid out forty-six specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the executive order.

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32, into law. AB 32 commits the State to achieving the following:

- 2000 GHG emission levels by 2010, which represents an approximately 11 percent reduction from business as usual (BAU).

- 1990 levels by 2020, approximately 30 percent below BAU.

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. The following schedule outlines the CARB actions mandated by AB 32:

- By January 1, 2008, CARB adopts regulations for mandatory GHG emissions reporting, defines 1990 emissions baseline for California (including emissions from imported power), and adopts it as the 2020 statewide cap.[17]

[17] *CARB has adopted 427 million metric tonnes of carbon dioxide equivalent ($MMTCO_2e$) as the total statewide greenhouse gas 1990 emissions level and the 2020 emissions limit. See http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm (last visited 8/14/2008).*

- By January 1, 2009, CARB adopts plan to effect GHG reductions from significant sources of GHG via regulations, market mechanisms and other actions.[18]
- During 2009, CARB drafts rule language to implement its plan and holds a series of public workshop on each measure (including market mechanisms).
- By January 1, 2010, early action measures will take effect.
- During 2010, CARB, after workshops and public hearings, conducts series of rulemakings to adopt GHG regulations including rules governing market mechanisms.
- By January 1, 2011, CARB completes major rulemakings for reducing GHGs, including market mechanisms. CARB may revise and adopt new rules after January 1, 2011 to achieve the 2020 goal.
- By January 1, 2012, GHG rules and market mechanisms adopted by CARB take effect and become legally enforceable.
- December 31, 2020 is the deadline for achieving 2020 GHG emissions cap.

CARB's list of discrete early action measures that can be adopted and implemented before January 1, 2010 was approved on June 21, 2007, and focuses on major State-wide contributing sources and industries, not on individual development projects or practices. These early action measures are: (1) a low-carbon fuel standard; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills. Recently, CARB released emissions inventory estimates for 1990 through 2004.

A companion bill to AB 32, Senate Bill (SB) 1368, requires the California Public Utilities Commission (PUC) and California Energy Commission (CEC) to establish GHG emission performance standards for the generation of electricity. These standards will also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting ARB to meet its mandate under AB 32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour (MW/hr). Further, on May

[18] *CARB released the Climate Change Proposed Scoping Plan in October 2008, which details the strategies that the State will use to reduce GHG emissions. The Plan was approved at the Board hearing in December 2008.*

23, 2007, the CEC adopted regulations that establish and implement an identical EPS of 1,100 pounds of CO_2 per MW/hr (see CEC order No. 07-523-7).

An additional bill related to AB 32, SB 97, requires the California Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including but not limited to, effects associated with transportation or energy consumption. The Resources Agency will then be required to certify and adopt the guidelines by January 1, 2010, and to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to AB 32.[19] The OPR released a technical advisory on addressing climate change through CEQA Review on June 19, 2008. This guidance document outlines suggested components to CEQA disclosure: quantification of GHG emissions from a project's construction and operation, determination of signifiance of the project's impact to climate change, and if the project is found to be significant, the identification of suitable alternatives and mitigation measures.

There has also been California legislative activity acknowledging the relationship between land use planning and transportation sector GHG emissions. California Senate Bill 375 (passed Assembly on 8/25/2008; passed Senate on 8/30/2008; signed by the Governor on September 30, 2008) links regional planning for housing and transportation with the greenhouse gas reduction goals outlined in AB 32. Reductions in GHG emissions would be achieved by, for example, locating housing closer to jobs, retail, and transit. Under the bill, each Metropolitan Planning Organization would be required to adopt a sustainable community strategy to encourage compact development so that the region will meet a target, created by CARB, for reducing GHG emissions.

There is no regional agency responsible for the regulation of GHG emissions related to global climate change. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate factors leading to global climate change or GHG emission issues associated with plans and new development projects throughout the SCAB.

In order to provide GHG emission analysis guidance to the local jurisdictions within the SoCAB, the SCAQMD has organized a Working Group to develop GHG emission analysis guidance and thresholds.

[19] *Senate Bill No. 97, Chapter 185, approved by Governor Schwarzenegger and filed with the Secretary of State, August 24, 2007.*

(9) Potential Health Impacts

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the prevalent air quality.

The following pollutants are regulated by the EPA and therefore are subject to emission reduction measures adopted by federal, state and other regulatory agencies.

Ozone (O_3): Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds and nitrogen oxides (NO_X) under favorable meteorological conditions such as high temperature and stagnation episodes. An elevated level of ozone irritates the lungs and breathing passages, causing coughing, and pain in the chest and throat thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower the lung efficiency.

Carbon Monoxide (CO): Carbon monoxide is primarily emitted from combustion processes and motor vehicles because of incomplete combustion of fuel. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of moderate levels of carbon monoxide can cause nausea, dizziness, and headaches, and can be fatal at high concentrations.

Particulate Matter (PM_{10} and $PM_{2.5}$): The human body naturally prevents the entry of larger particles into the body. However, small particles, with an aerodynamic diameter equal to or less than ten microns (PM_{10}) and even smaller particles with a aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), are trapped in the nose, throat, and upper respiratory tract. These small particulates enter the body and could potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM_{10} and $PM_{2.5}$. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulate could become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

Nitrogen Oxides (NO_X): Major sources of NO_X include power plants, large industrial facilities, and motor vehicles. Nitrogen oxides are emitted from combustion processes and

irritate the nose and throat. It increases susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_X is as a precursor to the formation of ozone.

Sulfur Dioxide (SO_2): Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Sulfur dioxide potentially causes wheezing, shortness of breath, and coughing. High levels of particulate appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

Lead (Pb): Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing the metal is the primary source of lead emissions, which is primarily a regional pollutant. Lead affects the brain and other parts of the body's nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

Fugitive Dust Impacts from Construction

"Fugitive dust" is atmospheric dust resulting from both natural and anthropogenic disturbance of soil and other granular material. Fugitive dust particles are comprised mainly of soil minerals (i.e. oxides of silicon, aluminum, calcium, and iron), but can also consist of sea salt, pollen, spores, etc. The most common regulated forms of particulate matter PM_{10} and $PM_{2.5}$ as described above.

PM_{10} is predominately comprised of windblown dust or other operations involving solid particulate materials. $PM_{2.5}$ is more likely the result of fuel combustion and photochemical reactions. $PM_{2.5}$ is both directly emitted and formed via chemical reactions in the atmosphere from precursor pollutants such as NO_X, SO_X, and ammonia. However, most fugitive dust particles are larger than PM_{10} particulates and thus would not comprise either PM_{10} or $PM_{2.5}$.

Common sources of fugitive dust during construction include use of unpaved roads and construction operations. Fugitive dust emissions, a component of particulate matter (PM), have a negligible toxicity factor. As such, the inclusion of fugitive dust in a health risk assessment would not have a significant effect on the assessment's results. However, exposure to PM can lead to health problems.

PM_{10} may accumulate in the lungs and irritate the respiratory tract, and may also lead to eye irritation, but fine particles ($PM_{2.5}$) are more likely than larger PM_{10} particles to contribute to

health effects. The CARB and the USEPA have recognized adverse health effects that may be associated with exposure to PM, including:

- Increased respiratory symptoms, such as the irritation of the airways, coughing, or difficulty breathing;
- Decreased lung function, particularly in children;
- Aggravated asthma;
- Development of chronic bronchitis;
- Irregular heartbeat;
- Increased respiratory and cardiovascular hospitalizations;
- Premature death in people with heart or lung disease.

Based on reviews of the latest scientific literature, CARB staff has concluded that exposure to PM2.5 has potential health impacts. In recognition, the USEPA and CARB have established NAAQS and CAAQS for PM emissions. The NAAQS and CAAQS have been set at levels considered safe to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly with a margin of safety.

Short-term exposure to fugitive dust during construction typically will not result in any considerable health effects. Health risk methodologies for operational impacts typically assume a conservative continuous exposure of 24-hours per day, for a 70-year lifetime, outdoors at the same location. In contrast, exposure during construction is substantially reduced because of the temporary nature of construction and because construction activities primarily occur during normal working hours. As a result of the limited exposure, health effects from fugitive dust during construction are minimized. As mentioned previously, air quality standards and SCAQMD thresholds are developed for the purpose of protecting the health of sensitive populations.

(10) Pedestrian Wind Effects

The City of Long Beach does not have specific pedestrian comfort requirements related to wind effects. Instead, wind thresholds and comfort categories, discussed below, are used to establish conditions that, while not universally agreed upon, have been accepted by many cities to satisfy municipal requirements. This means that wind speeds should be equal to or lower than the applicable speed category, determined to be comfortable for a specific use expected at a

given location. The comfort criteria used in the analysis of pedestrian wind effects are considered to be representative of those accepted by many cities and municipalities.

3. PROJECT IMPACTS

a. Significance Thresholds

The thresholds discussed below are currently recommended by the SCAQMD in the *CEQA Air Quality Handbook* to translate the State CEQA Guidelines thresholds into numerical values or performance standards. As discussed previously in this section, the City utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

(1) Construction Emissions

Based on criteria set forth in the SCAQMD Handbook, the project would have a significant impact with regard to construction emissions if the following would occur:

- Regional emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 100 pounds per day for NO_X, (2) 75 pounds a day for VOC, (3) 150 pounds per day for PM_{10}, (4) 55 pounds per day $PM_{2.5}$ (5) 550 pounds per day for CO, and (6) 150 pounds per day for SO_X.[20]

In addition, the SCAQMD has developed methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards. Impacts would be considered significant if the following would occur:

- Maximum daily localized emissions are greater than the Localized Significance Thresholds (LST), resulting in predicted ambient concentrations in the vicinity of the project site greater than the most stringent ambient air quality standards for CO and NO_2.[21]

[20] *http://www.aqmd.gov/ceqa/handbook/signthres.doc.*

[21] *South Coast Air Quality Management, LST Methodology: http://www.aqmd.gov/ceqa/handbook/lst/Method_final.pdf.*

- Maximum localized PM_{10} or $PM_{2.5}$ emissions during construction are greater than the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the site to exceed 50 $\mu g/m^3$ over five hours (SCAQMD Rule 403 control requirement).

(2) Operational Emissions

Thresholds of significance regarding operational emissions are set forth in the *CEQA Air Quality Handbook,* which states that a project would normally have a significant impact on air quality from project operations if any of the following would occur:

- Operational emissions exceed 10 tons per year of volatile organic gases or any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for VOC, (2) 55 pounds per day for NO_X, (3) 550 pounds per day for CO, (4) 150 pounds per day for PM_{10} or SO_X[22] and (5) 55 pounds per day for $PM_{2.5}$.[23]

- Either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:

  – The proposed project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively; or

  – The incremental increase due to the project is equal to or greater than 1.0 ppm for the California 1-hour CO standard, or 0.45 ppm for the 8-hour CO standard.

- The project creates an objectionable odor at the nearest sensitive receptor.

- The project would not be compatible with SCAQMD and SCAG air quality polices if it:

  – causes an increase in the frequency or severity of existing air quality violations;

  – causes or contributes to new air quality violations;

  – delays timely attainment of air quality standards or the interim emission reductions specified in the AQMP; or

  – exceeds the assumptions utilized in the SCAQMD's AQMP.

[22] *South Coast Air Quality Management District, CEQA Air Quality Handbook, Chapter 6 (Determining the Air Quality Significance of a Project), 1993.*

[23] *South Coast Air Quality Management District, Final-Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds, October 2006.*

(3) Toxic Air Contaminants

The *CEQA Air Quality Handbook* provides specific guidance for assessing a project's impacts. The following factors are set forth in *CEQA Air Quality Handbook* for determining on a case-by-case basis whether the proposed project would have a potential impact:

- The regulatory framework for the toxic material(s) and process(es) involved;
- The proximity of the toxic air contaminants to sensitive receptors;
- The quantity, volume, and toxicity of the contaminants expected to be emitted;
- The likelihood and potential level of exposure; and
- The degree to which project design will reduce the risk of exposure.

Based on these factors and criteria set forth in the SCAQMD Handbook, the project would have a significant toxic air contaminant impact, if:[24]

- The project emits or exposes sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of ten in one million or an acute or chronic hazard index of 1.0.
- Hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety.
- The project would be occupied primarily by sensitive individuals within a quarter mile of any existing facility that emits air toxic contaminants which could result in a health risk for pollutants identified in SCAQMD Rule 1401.

The threshold for significance used to evaluate the exposure to TACs is 10 excess cancer cases per one million people. This is the threshold recommended by the SCAQMD and the CARB explicitly to characterize impacts attributable to projects that introduce new sources of TAC emissions in an area, and in practice has also been applied to new on-site sensitive receptors introduced into areas with existing TAC sources nearby.

[24] *SCAQMD, CEQA Air Quality Handbook, Chapter 6 (Determining the Air Quality Significance of a Project) and Chapter 10 (Assessing Toxic Air Pollutants), April 1993.*

(4) Greenhouse Gas Emissions

Section 15064.7 of the CEQA Guidelines defines a threshold of significance as an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. CEQA gives wide latitude to lead agencies in determining what impacts are significant and does not prescribe thresholds of significance, analytical methodologies, or specific mitigation measures. CEQA leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects. However, the SCAQMD, the City of Long Beach, and the County of Los Angeles, have not yet established specific quantitative significance thresholds for GHG emissions. The regulations required to meet the State goals under AB 32 are still under development. Furthermore, pursuant to SB 97, guidelines to be prepared by OPR for addressing greenhouse gas emissions under CEQA may not be adopted until January 1, 2010. Additionally, OPR released preliminary draft CEQA guideline amendments for GHG emissions in January 2009. OPR does not identify a threshold of significance for GHG emissions, nor has it prescribed assessment methodologies or specific mitigation measures. The preliminary draft amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The draft guideline amendments augmented Appendix G of the CEQA Guidelines, the environmental checklist form, to include a section on greenhouse gas emissions. The draft guideline amendments suggested the following questions:

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?

b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The preliminary draft amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. OPR is required to "prepare, develop, and transmit" the guidelines to the Resources Agency on or before July 1, 2009, for certification and adoption. The draft guidelines were transmitted on April 13, 2009 by OPR to the Natural Resources Agency.

While the OPR has not yet adopted formal significance thresholds, OPR issued a guidance document on June 19, 2008 to provide interim advice to lead agencies regarding the analysis of GHG emissions in environmental documents. The technical advisory suggests three components for CEQA disclosure: quantification of GHG emissions from a project's construction and operation, determination of significance of the project's impact to climate change, and if the project is found to be significant, the identification of suitable alternatives and mitigation measures. The analysis contained herein follows this guidance. The California Air Pollution Control Officers Association (CAPCOA) released a white paper, entitled *CEQA and Climate Change*, in January, 2008. The white paper examines various threshold approaches available to air districts and lead agencies for determining whether GHG emissions are significant. One of CAPCOA's proposed approaches in the white paper is a "non-zero" threshold of 900 annual metric tons for residential and office projects.

CAPCOA and the State of California's Attorney General recognize that potential GHG impacts are exclusively cumulative in nature. Therefore, CAPCOA recommends that lead agencies require some level of mitigation even for projects that result in GHG emissions that are less than a numeric threshold. Because the County's Energy and Environmental Policy serves to reduce GHG emissions from new projects and existing operations, it is supportive of the goals of AB32 and is consistent with the CAPCOA recommendations. Thus, if a project results in emissions less than the numeric thresholds and implements design strategies consistent with the City of Long Beach's interim Green Building Requirements for Private Development, it is considered consistent with the goals of AB32, and is considered to have a less than significant impact with respect to its contribution to the cumulative impact of global climate change.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. SCAQMD also proposed a screening level of 3,000 metric tons per year for commercial or residential projects, under which project impacts are considered "less than significant." The 3,000 metric ton screening level was intended "to achieve the same policy objective of capturing 90 percent of the GHG emissions from new development projects in the residential/commercial sectors."[25] For projects with GHG emissions increases greater than 3,000 metric tons per year, the use of a percent emission reduction target (e.g., 30 percent) was proposed to determine significance. This emission reduction target is a reduction below what is considered "business as usual." SCAQMD also proposes that projects amortize construction emissions over the 30-year lifetime of any given project. Project construction emissions can be

[25] *SCAQMD, Board Meeting, December 5, 2008, Agenda No. 31, Interim GHG Significance Threshold Proposal – Key Issues/Comments Attachment D.*

amortized by calculating total construction period emissions and dividing by the 30-year lifetime of the project.

In December 2008, SCAQMD adopted interim CEQA GHG significance thresholds for use only when SCAQMD is the lead agency on Projects. These draft thresholds apply to stationary source (industrial) projects only, and include a 10,000 metric ton CO_2e screening level. SCAQMD has not recommended them for use by other lead agencies at this time. As of July 2009, SCAQMD and the Working Group are developing interim CEQA GHG significance thresholds for use in a broader context by other lead agencies.

In October 2008, CARB released a draft guidance document regarding interim CEQA GHG significance thresholds, wherein CARB proposed a tiered approach. CARB also proposed separate performance standards for construction, operational energy efficiency, water use, waste, and transportation, as well as a quantitative significance threshold in metric tons of CO_2e (carbon dioxide equivalent) per year. The draft guidance included neither specific performance standards nor numeric significance thresholds for residential or commercial projects. On April 27, 2009, CARB revealed that it had abandoned its development of the proposed interim CEQA GHG significance thresholds in a public meeting; however, as of October 2009 no formal announcement has been publicized on CARB's website or elsewhere.

The thresholds of significance proposed by the SCAQMD GHG Working Group are considered most appropriate for the proposed project, and will be utilized herein. Thus, 3,000 metric tons of CO_2e will be used as a screening level for the analysis. If the project results in annual emissions that exceed the 3,000 metric ton CO_2e screening level, a 30 percent reduction target for GHG emissions below business as usual, consistent with AB32, will be applied.

While it is difficult to predict the specific impact of one project's incremental contribution to the global effects of GHG emissions due to a variety of factors, including the complex and long term nature of such effects and the global scale of climate change, it is possible to quantify a project's incremental increase in GHG emissions. There are several avenues available for evaluating the significance a project's impact to global climate change. The threshold of 900 annual metric tons proposed in the CAPCOA white paper will be utilized as a screening level for determining significance on a project level, in accordance with Appendix G draft amendments discussed above. If the project results in annual emissions that exceed the 900 metric ton screening level, a 30 percent reduction target for GHG emissions below business as usual, consistent with AB32, will be applied. Thus, if a project results in emissions less than the applicable numeric thresholds or mitigates GHG emissions to 30 percent below business as usual, the project will result in a less than significant impact to global climate change. Further, if a project results in emissions less than the applicable project-level quantitative threshold and implements design and operational strategies consistent with an applicable GHG reduction policy (the City of Long Beach Green Building Standards), it is considered to have a less than

significant impact with respect to its contribution to the cumulative impact of global climate change. These criteria are consistent with Appendix G draft amendments discussed above.

(5) Pedestrian Wind Effects

The threshold of significance regarding pedestrian wind effects is based on accepted industry standards utilized throughout the United States and Canada, which are based on empirical data. The project would have a significant wind-related impact the following were to occur:

- The project generates wind speeds at the project site in excess of acceptable standards established for various uses and activities.

b. Methodology

The evaluation of potential impacts to local and regional air quality that may result from the construction and long-term operations of the project was conducted as follows:

(1) Construction Impacts

(a) Regional

Construction generates pollutant emissions both on-site and off-site. The term "regional emissions" includes both. On-site emissions include exhaust emissions from diesel-powered equipment, volatile emissions from paint, construction materials, and asphalt, and fugitive dust generated by moving earth and driving on unpaved surfaces. Off-site emissions include diesel exhaust, tire wear and brake wear particulates from construction vehicles making their way to and from the site, and vehicle exhaust, tire and brake wear particulates from worker commuting.

Daily regional emissions during construction were forecast using a conservative[26] construction scenario (for example, assuming construction activities will occur within a short period of time, producing higher daily emissions than a prolonged schedule, and at an early date, when fewer construction fleet emission control requirements may have become effective, and fewer emission control technology innovations may have become available) for development of the residential and hotel options. URBEMIS 2007 provided the required mobile-source and

[26] *The term "conservative," as used in this document, means health-conservative. Methods that analysts consider conservative are more likely to produce emission and heath risk estimates that are high, and thus, from a risk management perspective, to err on the side of health protection. Details are provided in Appendix B.*

fugitive dust emission factors.[27] Project design features incorporated into the construction emissions analysis include applying water to exposed surfaces at least twice daily and frequent application of water to unpaved roads, in compliance with SCAQMD Rule 403. The construction emissions analysis also takes into account SCAQMD Rule 1113 which limits the amount of VOC content in architectural coatings (paint). Details, including a complete listing of construction equipment by phase and duration, and other model input assumptions used in this analysis, are presented in Appendix B of this EIR. The forecast regional emission rates for construction were compared to mass daily thresholds of significance published by the SCAQMD.[28]

(b) Local

The localized effects from the on-site portion of daily emissions are evaluated at sensitive receptor locations potentially impacted by the project according to the SCAQMD's LST methodology, which utilizes on-site mass emissions rate look up tables and project specific modeling, where appropriate. LSTs are only applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) and distance to the nearest sensitive receptor. For PM_{10} and $PM_{2.5,}$ LSTs were derived based on requirements in SCAQMD Rule 403, Fugitive Dust. The mass rate look-up tables were developed for each SRA and can be used to determine whether or not a project may generate significant adverse localized air quality impacts. The LST mass rate look-up tables only apply to projects that are less than or equal to five acres. If the project exceeds five acres then the SCAQMD recommends that project specific air quality modeling must be performed. Although the entire project is greater than 5 acres, it is expected that no more than 5 acres will be disturbed during each phase of construction. As a result the LST mass rate look-up tables were used for the analysis.

The project analysis employed SCAQMD LSTs as follows: Localized (on-site) emission rate estimates for construction activities were derived from the regional (on- and off-site) emission rate forecasts by subtracting off-site emissions (e.g., from construction worker commuting, and from delivery and haul truck trips). Localized construction emissions were then compared to LST look-up tables to determine significance.

---

[27] *URBEMIS 2007 is an emissions estimation/evaluation model developed by CARB, and based, in part, on SCAQMD CEQA Air Quality Handbook guidelines and methodologies.*

[28] *SCAQMD Air Quality Significance Thresholds (Rev. December 2007): http://www.aqmd.gov/ceqa/handbook/-signthres.pdf.*

(2) Operational Impacts

The analysis of post-construction air pollution impacts considered the current use of the project site as a baseline. The difference between future (planned) operation and current use served as the basis for evaluating the significance of operational impacts of the project. In this way, the analysis focused on net impacts.

(a) Regional

The analysis of the project's likely impact on regional air quality during long-term project operations (i.e., after construction is complete) looked at three types of sources: mobile, area and stationary. Mobile sources are off-site vehicle trips. Area sources involve multiple similar emissions on-site, within the area of the project, such as when residents use natural gas for hot water, heat, or cooking, or use consumer products that contain volatiles and solvents. Landscaping equipment which burn fossil fuel used on-site is also considered an area source. The stationary sources included in the analysis of regional impacts are those involved with generating electricity for the project.[29]

The URBEMIS 2007 software was used to forecast the daily regional emissions from mobile and area-sources that would occur during project operations, and also to estimate emissions associated with current uses of the site. In calculating mobile-source emissions, the URBEMIS 2007 default trip length assumptions were applied to the average daily trip (ADT) estimates from the traffic study (Appendix F) to arrive at vehicle miles traveled (VMT). Stationary source emissions were compiled using procedures outlined in the SCAQMD's CEQA Handbook.[30] The forecast regional emission rates for operation of the project were compared to mass daily thresholds of significance published by the SCAQMD.[31]

(b) Local

Operational emissions have the potential to impact local air pollutant levels at nearby receptors in two ways. New or modified on-site stationary sources, such as those fired by diesel

---

[29] *A review of the proposed project's site plan and related project description did not identify any new or modified individually significant stationary source on-site.*

[30] *See SCAQMD, CEQA Air Quality Handbook (April 1993; portions "Changed November 1993"), Chapter 9 and Appendix 9.*

[31] *SCAQMD Air Quality Significance Thresholds (Rev. December 2007): http://www.aqmd.gov/ceqa/handbook/-signthres.pdf. These SCAQMD based these thresholds in part on the federal Clean Air Act, and, to enable defining "significant" for CEQA purposes, defined the setting as the South Coast Air Basin. (See SCAQMD, CEQA Air Quality Handbook, April 1993, pp. 6-1 – 6-2.)*

or natural gas, may increase ambient levels of criteria pollutants and TACs at adjacent sensitive land uses. The increase in vehicular travel, especially if the project-level activity contributes substantively in addition to an increase in congestion, may generate localized "hot spots", localized areas of elevated ambient levels, at sensitive receptors (pedestrians) located near to roadways and intersections in the project vicinity. Analysis methods differ for each of these potential impacts and are described in detail below.

Effects related to operation of stationary-source combustion equipment and associated PM emissions at the project site, are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling) as necessary. The screening-level analysis consists first of reviewing the proposed project's site plan and related project description to identify any new or modified stationary-source combustion equipment. Then, if such equipment is identified, the potential significance of its impact is evaluated qualitatively in light of applicable regulations and operating parameters. If the qualitative evaluation does not rule out significant impacts, a more detailed analysis is conducted. Downwind sensitive receptor locations are identified, and site-specific dispersion modeling is conducted to estimate proposed project impacts. For this project, the screening-level analysis was determined to be sufficient.

With respect to mobile source emissions, CO is the primary pollutant of concern. Localized impacts from mobile source CO were evaluated using data from the traffic study (Appendix F) and the CALINE4 microscale dispersion model developed by Caltrans,[32] in combination with CARB's EMFAC2007[33] emission factors. In traffic studies, the term "level of service" (LOS) describes traffic performance at intersections or along roadway segments, and is generally expressed as a letter grade (A through F, with an A grade meaning the freest-flowing traffic). Traffic researchers and planning agencies generally assign LOS ratings to intersections based on the ratio of traffic volume (or demand) to capacity (V/C).[34] Lower V/C ratios correspond to better performance (freer-flowing traffic). SCAQMD suggests conducting a CO hotspots analysis according to a state Department of Transportation (Caltrans) protocol for any intersection where a project would worsen the LOS below C, and for any intersection rated D or worse where the project would increase the V/C ratio by 2 percent or more. Projected CO concentrations were compared to ambient air quality standards and incremental increase thresholds to determine whether CO impacts from operation would be significant.

---

[32] *See California Department of Transportation, CALINE4 Manual, http://www.dot.ca.gov/hq/env/air/pages/calinemn.htm.*

[33] *See California Air Resources Board (CARB), California Environmental Protection Agency, EMFAC2007 Release, http://www.arb.ca.gov/msei/onroad/latest_version.htm.*

[34] *For an example LOS rating system for signalized intersections, see the City of Roseville, CA, Level of Service (LOS) Policy: http://www.roseville.ca.us/pw/engineering/transportation_planning/level_of_service_(los).asp.*

(3) Toxic Air Contaminants (TAC) Impacts (Construction and Operations)

Analysis of potential TAC impacts must be performed from two viewpoints: (1) TAC emissions from the project impacting off-site receptors and (2) ambient TAC concentrations impacting on-site (project) sensitive receptors. Potential TAC impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling), as necessary. The off-site screening-level analysis consists of reviewing the proposed project's site plan and project description to identify any new or modified TAC emissions sources. The on-site (project) screening-level analysis consists of reviewing the project area for any major sources of TACs and their potential to impact on-site sensitive receptors. The CARB provides siting recommendations for sensitive receptors which specify the distance at which they should be located from major sources of TACs. Examples of major sources of TACs include high traffic roadways, freeways, gasoline stations, railroads and ports. Because the proposed project will introduce sensitive receptors in close proximity to a major source of TAC emissions, a review of existing health risk data is conducted to determine potential project impacts.

(4) Greenhouse Gas Emissions

Although protocols are available for calculating and reporting GHG emissions, it is important to note that there is no clear guidance defining the extent to which direct or indirect GHG emissions resulting from a project should be addressed and analyzed as part of the CEQA assessment process. To date, no state agency has promulgated significance criteria for such emissions. Nevertheless, this EIR endeavors to characterize the majority of the GHG emissions that would be associated with the project by considering likely increases in use of on-road motor vehicles (mobile sources), electricity, water and natural gas.

CCAR has prepared a protocol for calculating and reporting GHG emissions from a number of general and industry-specific activities.[35] This guidance was used to address GHG emissions from the project. To be consistent with guidance from the SCAQMD for calculating criteria pollutants from construction activities, GHG emissions from on-site demolition and construction activities and off-site hauling and construction worker commuting are considered as project-generated. The GHG emissions resulting from the incremental increase in usage of on-road mobile vehicles, electricity, and natural gas after construction of the project were also considered as project-related. Finally, since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions were calculated on an annual basis.

[35] *CCAR, General Reporting Protocol Version 3.0 (April 2008), http://www.climateregistry.org/resources/docs/-protocols/grp/GRP_V3_April2008_FINAL.pdf.*

With regard to mobile sources, the analysis used estimates from the traffic study (Appendix F) of VMT that would be generated by the project. In order to calculate annual GHG emissions, daily vehicle miles were converted to annual vehicle miles traveled (annualized) using the URBEMIS 2007 software. These values account for variations in trip frequency and length associated with travel to and from the project location. Mobile source calculations also utilized EMFAC2007 to derive emission factors for CO_2 and CH_4. These emission factors were then applied to the annual VMT from the traffic study. Future mobile source GHG emission reductions from regulations required by AB 1493 were not incorporated in EMFAC2007. Therefore, the analysis may have produced an overestimate of future mobile source GHG emissions.

The consumption of fossil fuels to generate electricity and to provide heating and water creates GHG emissions. Future fuel consumption rates were estimated based on land use-specific square footage of the project, and natural gas and electricity usage factors derived from the SCAQMD *CEQA Air Quality Handbook.*[36] GHG emission factors from the most recent CCAR General Reporting Protocol[37] were then applied to the fuel consumption rates to calculate annual greenhouse gas emissions.

Embodied energy usage rates associated with the project's future water supply needs were estimated using energy intensity factors provided by the CEC.[38] GHG emission factors from the CCAR protocol were then applied to the energy usage rates to calculate water use-related annual greenhouse gas emissions in metric tons. The GHG emission factors used in this analysis represent a statewide average of known power producing facilities that use various technologies and emission control strategies, and do not take into account the unique emissions profile of nearby power generating plants. Nor do they reflect future reductions in electricity generation GHG emissions required or likely to be prompted by SB 1368. Therefore, these emission factors are considered conservative.

Not all GHGs exhibit the same ability to induce climate change. As a result, GHG contributions are commonly quantified in terms of what would be, in GWP, an equivalent mass of CO_2, denoted as CO_2e. Mass emissions are calculated by converting pollutant specific

---

[36] *See SCAQMD, CEQA Air Quality Handbook (April 1993; portions "Changed November 1993"), Chapter 9 and Appendix 9.*

[37] *CCAR, General Reporting Protocol Version 3.1 (January 2009), http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf.*

[38] *CEC, California's Water-Energy Relationship (Nov. 2005), http://www.energy.ca.gov/2005publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF (accessed Aug. 2008), p. 11. In the analysis here, the energy required for wastewater treatment is considered separately from the energy intensity of the other parts of the water use cycle (water supply and conveyance, water treatment and water distribution). Recycling wastewater reduces energy demand and hence GHG emissions as well.*

emissions to CO_2e emissions by applying the proper GWP value.[39] These GWP ratios are available from the USEPA and published in the CCAR protocol. By applying the GWP ratios, project related CO_2e emissions can be tabulated in metric tons per year. The CO_2e values were calculated for existing and project build-out conditions in order to estimate the net change in GHG emissions for operation (refer to Appendix B of this EIR).

(5) Pedestrian Wind Effects

The effect of wind on people utilizing outdoor areas is evaluated using accepted pedestrian comfort criteria. The pedestrian comfort criteria reflect a person's perception of the wind and are somewhat dependent upon the activity. For example, sitting and outdoor eating requires calmer wind conditions than would be expected either for a brisk walk or general outdoor activities. Not only are the wind speeds important but also their frequency and persistence. The comfort criteria include threshold wind speeds for various activities below which a comfort level appropriate for each activity would be expected, as well as criteria above which vulnerable pedestrians might be at risk.

A pedestrian-level wind study was completed for the proposed project to evaluate the proposed project's potential to result in adverse impacts to future residents, employees, and visitors at the project site. The results of the wind study completed for the proposed project and surrounding area are presented below under Subsection 3.c., Analysis of Project Impacts, by comparing the predicted wind levels and the recurrence levels of pedestrian winds with accepted wind thresholds. The comfort criteria used in the pedestrian wind study are summarized as follows:

- **Sitting:** Wind speeds 0 - 6 MPH. This range of wind speeds is acceptable for leisure sitting for extended periods of time and is suitable for outdoor dining, as well as for short-term sitting at outdoor cafes, standing, or strolling. These are light to gentle breezes where wind is felt on the face, leaves rustle, small branches and twigs are in constant motion.

- **Standing:** Wind speeds 0 – 9 MPH. This range of wind speeds is suitable at building entrances, bus stops, short-term sitting, window shopping, and leisurely walking. These are moderate breezes where, at the higher end of this range, dust, loose paper and small branches are in motion.

- **Walking:** Wind speeds 0 - 12 MPH. This range of wind speeds is suitable for brisk walking, parks, and general pedestrian activities. At the higher end of this range, small

[39] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

leafed trees begin to sway, crested wavelets form on inland waterways, and umbrella usage becomes difficult.

- **Uncomfortable:** Wind speeds > 12 MPH. These winds are generally considered uncomfortable and begin to become a nuisance for most activities.

- **Dangerous:** Wind speeds > 55 MPH. At these speeds, whole trees are in motion, walking is difficult, and performance of general activities is impeded.

(b) Project Design Features

Project design features (PDFs) include aspects of the project that either must be incorporated as part of the conditions of approval, or that the applicant has chosen to include to reduce impacts associated with the project.

PDF – Fugitive Dust: The project would comply with SCAQMD Rule 403 which requires implementation of best available dust control measures during construction activities which generate fugitive dust, such as earth-moving activities, grading, demolition and equipment travel on unpaved roads. Dust control measures include frequent application of water or chemical surfactants, providing dirt track-out prevention devices, covering stockpiles and sweeping of streets adjacent to the construction site. The full text of SCAQMD Rule 403 is included in Appendix B of this EIR.

PDF – Green Building Components: The project would be designed and constructed in manner to increase energy efficiency and reduce GHG emissions. The following project features would be implemented to achieve GHG reductions, all of which directly or indirectly result in lower emissions of criteria pollutants, toxic air contaminants, or GHGs than "business as usual":

(a) The proposed project would provide covered bicycle storage areas for occupants and residents.

(b) The proposed project would provide preferred parking to fuel-efficient and low-emitting (Zero Emission vehicles).

(c) Shared parking that will encourage use of mass transit and other modes of transportation.

(d) Landscape irrigation for the proposed project would reduce the use of potable water by 50 percent by choosing drought resistant or low-water plants, in addition to water-efficient irrigation techniques.

(e) The proposed project would reduce its domestic water demand by at least 20 percent through the use of low-water or high-efficiency fixtures, including toilets, urinals, showers, and faucets.

(f) The proposed project would reduce its energy usage by at least 14 percent below its Title 24 baseline.

c. Analysis of Project Impacts

(1) Construction

(a) Regional Construction Impacts

Construction of the project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the project site. In addition, fugitive dust emissions would result from demolition and construction activities. Mobile source emissions, primarily PM and NO_X, would result from the use of construction equipment such as bulldozers, loaders, and cranes. During the finishing phase, paving operations and the application of architectural coatings (e.g., paints) and other building materials would release VOCs. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

As mentioned previously, a residential and a hotel option are proposed for the project. Although both options include residential units, the residential option contains a greater amount of overall square footage in comparison to the hotel option. In order to provide a conservative analysis, the residential option was analyzed due to the increased square footage in comparison to the hotel option. Under the Residential Option, development would include 1,370 condominiums, an estimated 340,000 square feet of office space, 28,000 square feet of retail uses, approximately 3,355 parking spaces, open space, and other amenities.

In order to provide a conservative analysis, it is assumed that all construction activities would be completed in 84 months. The construction is expected occur in three phases, and is assumed for the purposes of this analysis to begin in June 2011 and end in June 2018. This timeframe is of particular importance as construction emissions are directly related to the intensity of construction activities (emissions increase as the overall amount of construction activity increases). Actual construction may proceed at a less intensive pace, which would result in lower daily emissions.

Construction of each phase is expected to occur sequentially (non-overlapping) with one phase complete before the next begins. Phase one consists of construction of the office tower on Parcel 1. Phase two consists of retail and residential uses also on Parcel 1. Phase three consists of construction of Parcel 2 (the site next to the Arco Center), consisting of the remaining residential, office and retail uses. Construction of each separate phase would occur through four sequential subphases (demolition, excavation, site grading/preparation, and building construction). Demolition of each site (whole or part of a parcel) would occur at the start of each phase. Thereafter, excavation and grading/site preparation would take place under the second and third subphase respectively. The fourth and final subphase includes building construction as well as architectural coatings and paving operations.

The construction subphases are assumed to proceed as follows for each project Phase:

- Demolition is expected to occur during months one through two;
- Grading and excavation activities would occur during months three through five of the project schedule, during which a total of approximately 15,000 cubic yards of soil would be exported for all options, respectively;
- Construction of the proposed superstructures would occur over a 23-month period, representing months 6 to 28;
- Completion of building finishes (coatings and paving) would take six months, from month 23 to 28.

A list of the equipment and usage rates expected to be utilized during the various phases of project construction are provided in Appendix B of this EIR. It should be noted that the URBEMIS2007 model, used to calculate emission estimates, does not yet take into account recently promulgated emission standards for off-road diesel construction equipment. Thus, actual emissions from the project would likely be less than those shown.

The emission levels in Table IV.B-4 on page IV.IV.B-45 represents the highest daily emissions to occur on any given day of construction under the residential option. Construction phases such as demolition and site preparation are expected to occur sequentially without any overlap. Site preparation under the residential option would require approximately 15,000 cubic yards of export in addition to pilling and shoring. The construction equipment mix assumed for the residential option includes a crane and a drill rig to account for piling and shoring activities. Construction activities such as architectural coatings and paving are included under the building construction phase. Building finishes would occur while portions of the super structure are still under construction. Emissions of the building finishes (coatings and paving) are included under the Building phase shown in Table IV.B-4.

Table IV.B-4

Residential Option – Unmitigated
Project Construction Emissions (lbs/day) [a]

	VOC	NO_X	CO	SO_2	PM_{10} [b]	$PM_{2.5}$
Maximum Regional Emissions (On-site + Off-site) By Phase						
Phase 1	52	61	49	<1	60	14
Phase 2	45	51	78	<1	11	4
Phase 3	50	43	59	<1	68	15
Maximum Regional Emissions	52	61	78	<1	68	15
Regional Construction Daily Significance Threshold	75	100	550	150	150	55
Over/(Under)	(23)	(39)	(472)	(150)	(82)	(40)
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Localized Emissions (On-site Only) By Phase						
Phase 1	51	54	30	<1	58	13
Phase 2	43	46	30	<1	11	4
Phase 3	48	34	29	<1	67	14
Maximum Localized Emissions	51	54	30	<1	67	14
Localized Construction Daily Significance Threshold	-	72	1407	-	25	8
Over/(Under)	-	(18)	(1377)	-	42	6
Require Further Analysis?	**No**	**No**	**No**	**No**	**Yes**	**Yes**

[a] *Compiled using the URBEMIS2007 emissions inventory model. The equipment mix and use assumption for each phase is provided in Appendix B of this EIR.*
[b] *PM_{10} emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.*
[c] *Asphalt paving and architectural coating would occur during the building stage.*

Source: PCR Services Corporation, 2009.

As shown in Table IV.B-4, maximum regional construction emissions would not exceed the SCAQMD daily significance thresholds for VOC, PM_{10}, $PM_{2.5}$, CO, NO_X or SO_X. Thus, regional construction emissions would result in a less than significant short-term air quality impact.

These emission forecasts reflect a specific set of assumptions in which the entire project for the residential or hotel options would be built out over 84 months, using equipment subject only to current, less stringent emission standards than those applicable in future years. Because of these conservative assumptions, the emissions levels in Table IV.B-4 represent the highest daily emissions projected to occur on any one day, and actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner burning construction equipment fleet mix,

and/or (2) a less intensive build-out schedule (i.e., lower daily emissions occurring over a longer time interval).

(b) Localized Construction Impacts

The conservative estimate of maximum on-site daily construction emissions for NO_X, PM_{10}, $PM_{2.5}$, and CO was compiled for each Project Phase and compared to the applicable screening threshold based on construction site acreage and distance to closest sensitive receptor. The localized construction air quality analysis was conducted using the methodology promulgated by the SCAQMD.[40] As indicated above, although the entire project is larger than five acres in size, construction would occur in phases and parcels of approximately 3 acres or less. Since construction would not occur on parcels larger than 5 acres in size, LST mass look-up tables were used for the localized analysis.

The unmitigated maximum daily localized emissions are also presented in Table IV.B-4. SCAQMD localized thresholds are currently available for CO, NO_2, PM_{10} and $PM_{2.5}$. The localized effects from the on-site construction emissions of CO, NO2, PM_{10} and $PM_{2.5}$ were compared to LST mass look-up thresholds. As shown in Table IV.B-4, maximum localized emissions of PM_{10} and $PM_{2.5}$ would exceed LST thresholds. Therefore, with respect to localized emissions from construction activities, the impacts from the project would be significant and mitigation would be required to reduce localized effects.

(c) Toxic Air Contaminants

The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual Cancer Risk is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

The Office of Environmental Health Hazard Assessment (OEHHA) has developed methodology for estimating health risk from TAC pollutants such as diesel exhaust from construction equipment. OEHHA has developed a DPM inhalation non-cancer (long-term)

[40] *See SCAQMD Localized Significance Thresholds at http://www.aqmd.gov/ceqa/handbook/LST/LST.html, SCAQMD, Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology at http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html, the Methodology section above, and Localized Significance Threshold Mass Rate Look-Up Tables at http://www.aqmd.gov/ceqa/handbook/LST/appC.pdf (accessed July 2008).*

reference exposure level of 5 micrograms per cubic meter (ug/m^3). No non-cancer acute (short-term) REL has been established for DPM.

Although a cancer risk factor has been established for DPM, the OEHHA HRA cancer risk factors assume a continuous exposure over a 70-year time frame. Because the construction schedule estimates that the phases which require the most heavy-duty diesel vehicle usage, such as site grading and excavation, would last no more than a year, construction of the proposed project would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. Additionally, the SCAQMD CEQA guidance does not require a health risk assessment for short-term construction emissions. It is therefore, not meaningful to evaluate long-term cancer impacts from construction activities which occur over a short duration. In addition, there would be no residual emissions after construction and thus no corresponding individual cancer risk. As such, project-related toxic emission impacts during construction would be less than significant.

(d) Global Climate Change

To be consistent with guidance from the SCAQMD for calculating criteria pollutants from construction activities, GHG emissions from on-site demolition and construction activities and off-site hauling and construction worker commuting are considered as project-generated. Construction of the project is estimated to emit a total of 315 tons per year of CO_2e. Results of this analysis are presented in Table IV.B-5 on page IV.B-48. These emissions are less than the 3,000 metric ton threshold proposed by the SCAQMD GHG Working Group. Therefore, construction GHG emissions associated with the project are not expected to result in a significant impact at the project level.

(2) Operational Impacts

(a) Regional Operational Impacts

Regional air pollutant emissions associated with project operations would come from the generation and consumption of electricity and natural gas, and by the operation of on-road vehicles. The SCAQMD classifies pollutant emissions associated with energy demand (i.e., electricity generation and natural gas consumption) as regional stationary source emissions. Since it is not possible to identify where electricity is produced, these emissions are conservatively considered to occur within the Basin and are regional in nature. Criteria pollutant emissions associated with the production and consumption of energy were calculated using emission factors from the SCAQMD's *CEQA Air Quality Handbook*.[41]

[41] *SCAQMD, CEQA Air Quality Handbook (April 1993; portions "Changed November 1993"), Appendix 9.*

Table IV.B-5

Construction Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons)
Construction (Total – Year 2013 - 2018)	9,510
Construction (Amortized – 30 years)	317
2004 Statewide Emissions	479,740,000
Percent	0.000066%
Less than 3,000 tons CO_2e?	**Yes**

Source: PCR Services Corporation, 2009.

Operational emissions are primarily a function of vehicle trips. The change in land uses and the resultant increases in trip generation were analyzed. According to the traffic report prepared by Linscott, Law and Greenspan (see Appendix F), the hotel option would result in the greater number of daily and hourly trips when compared to the residential option. Therefore, the hotel option was analyzed and is considered a worst-case for either Option.

Net mobile-source emissions were calculated using the URBEMIS 2007 emissions inventory model, which multiplies an estimate of the increase in daily VMT by applicable EMFAC2007 emissions factors. The URBEMIS 2007 model output and worksheets for calculating regional operational daily emissions are provided in Appendix B of this EIR.

The emission levels for the Residential Option represent the highest daily emissions projected to occur. As shown in Table IV.B-6 on page IV.B-49, the net increase in regional emissions resulting from operation of the project is expected to exceed the SCAQMD thresholds for VOCs, NO_X, and PM_{10}. Therefore, the project would result in a significant impact with regard to regional operational emissions and mitigation would be required.

(b) Local Operational Impacts

The SCAQMD recommends an evaluation of potential localized CO impacts when a project would increase V/C ratios by two percent or more at intersections with an LOS of D or worse. As indicated in Section IV.J, Traffic and Parking, of this Draft EIR, traffic would incrementally increase with project under future traffic scenarios, when compared to existing traffic levels, and would meet these criteria for both options for a at project build-out.

As mentioned previously, the hotel option would result in the greatest number of hourly trips in comparison to the residential option. With regard to localized operational impacts, peak hourly trips from the hotel option were used in the analysis. Criteria for potential localized CO

Table IV.B-6

Residential Option
Regional Operational Emissions
(Pounds per Day)

Emission Source	VOC	NO_X	CO	SOx	PM_{10}	$PM_{2.5}$
Existing Use Emissions						
Mobile	18	23	197	<1	50	10
Area	2	2	3	<1	<1	<1
Stationary	<1	12	2	1	<1	<1
Total Existing	**20**	**37**	**203**	**2**	**50**	**10**
Proposed Use Emissions						
Mobile	58	76	621	1	210	41
Area	64	17	14	<1	<1	<1
Stationary[b]	<1	47	6	4	1	<1
Total Project	**122**	**140**	**641**	**5**	**211**	**41**
Net Project Emissions						
Net Mobile	41	53	423	1	160	31
Net Area	62	15	11	<1	<1	<1
Net Stationary	<1	35	4	2	<1	<1
Total Net	**103**	**103**	**438**	**3**	**160**	**31**
SCAQMD Significance Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Over/(Under)	**48**	**48**	**(112)**	**(147)**	**10**	**(24)**
Exceed Threshold?	**Yes**	**Yes**	**No**	**No**	**Yes**	**No**

Note: Numbers may not add up exactly due to rounding.

[a] *Mobile and area emissions are calculated using the URBEMIS 2007 emissions model. Area sources include natural gas consumption, landscape fuel consumption, residential consumer products and miscellaneous sources (e.g., among other things, commercial solvent usage, architectural coatings). Emissions due to project-related electricity generation are calculated based on guidance provided in the Handbook. Worksheets and modeling output files are provided in Appendix B.*

[b] *Stationary emissions include electricity usage at the project site and emissions associated with regional power generation.*

Source: PCR Services Corporation, 2009.

impacts were met at 11 intersection locations. CO concentration levels at the six intersections with the greatest LOS and V/C ratios for the hotel option were forecast using the CALINE4 dispersion model developed by the California Department of Transportation, using peak-hour traffic volumes and conservative meteorological assumptions. Conservative meteorological conditions include low wind speed, stable atmospheric conditions, and the wind angle producing the highest CO concentrations for each case. CO concentrations were modeled under the future (2020) No Project and With Project Conditions. As shown in Table IV.B-7 on page IV.B-50 for the hotel option, project-generated traffic volumes are forecasted to have a negligible effect on the projected 1-hour and 8-hour CO concentrations at the intersections studied. Since a

Table IV.B-7

Hotel Option (worst-case)
Local Area Carbon Monoxide Dispersion Analysis

Intersection	Peak Period [a]	Maximum 1-Hour 2020 Base Concentration [b] (ppm)	Maximum 1-Hour 2020 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact? [d] (>20 ppm)	Maximum 8-Hour 2020 Base Concentration (ppm)	Maximum 8-Hour 2020 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact ? (>9.0 ppm)[d]
Alamitos and Fourth Street	A.M.	5.8	5.9	**No**	4.25	4.25	**No**
	P.M.	5.9	6.0	**No**	4.32	4.32	**No**
Alamitos and Broadway	A.M.	5.9	5.9	**No**	4.25	4.25	**No**
	P.M.	5.9	5.9	**No**	4.32	4.32	**No**
Chestnut Place and Ocean Boulevard	A.M.	6.0	6.0	**No**	4.46	4.46	**No**
	P.M.	5.8	5.9	**No**	4.32	4.32	**No**
Golden Avenue/ Golden Shore and Ocean Boulevard	A.M.	6.1	6.1	**No**	4.46	4.46	**No**
	P.M.	6.0	6.1	**No**	4.39	4.39	**No**
Magnolia Avenue and Ocean Boulevard	A.M.	6.0	6.0	**No**	4.39	4.46	**No**
	P.M.	5.9	5.9	**No**	4.39	4.39	**No**
Pacific Avenue and Ocean Boulevard	A.M.	6.0	6.0	**No**	4.39	4.39	**No**
	P.M.	6.0	6.0	**No**	4.39	4.39	**No**

ppm = parts per million.

[a] *Peak hour traffic volumes are based on the Traffic Study prepared for the project by LLG, August 2009.*
[b] *SCAQMD 2020 1-hour ambient background concentration (5.1 ppm) + 2020 Base traffic CO 1-hour contribution.*
[c] *SCAQMD 2020 1-hour ambient background concentration (5.1 ppm) + 2020 w/ project traffic CO 1-hour contribution.*
[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*
[e] *SCAQMD 2020 8-hour ambient background concentration (3.9 ppm) + 2020 Base traffic CO 8-hour contribution.*
[f] *SCAQMD 2020 8-hour ambient background concentration (3.9 ppm) + 2020 w/ project traffic CO 8-hour contribution.*

Source: PCR Services Corporation, 2009; emission factor and dispersion modeling output sheets are provided in Appendix B.

significant impact would not occur at the intersections operating at the highest V/C ratio, no significant impacts would occur at any other analyzed roadway intersection as a result of hotel or residential option-generated traffic volumes. Thus, both the hotel and residential option would not cause any new or exacerbate any existing CO hotspots, and, as a result, impacts related to localized mobile-source CO emissions would be less than significant.

The project may include the installation and operation of diesel-fired generators for emergency power generation. Unless a blackout occurs, these generators would be operated for only a few hours per month for routine testing and maintenance purposes. The Applicant would be required to obtain a permit to construct and a permit to operate any standby generators under SCAQMD Rules 201, 202, and 203. Under SCAQMD Regulation XIII, all generators must meet

BACT requirements to minimize emissions of PM_{10} (as well as CO, VOC, and NO_X emissions). Compliance with SCAQMD Rules and Regulations regarding stationary-source combustion equipment would ensure that contributions to localized PM_{10} concentrations remain below the 2.5 $\mu g/m^3$ significance threshold. As such, any potential localized operational impacts would be less than significant.

(c) Toxic Air Contaminants

Operational TAC Impacts to Off-Site Population

This section evaluates potential impacts to neighboring properties that may result from TAC emissions associated with long-term operation of the project.

The primary sources of potential air toxics associated with project operations include diesel PM_{10} from delivery trucks (e.g., truck traffic on local streets and on-site truck idling), emergency generators and TACs from boilers. Major stationary sources such as emergency generators and boilers may be subject to Regulation XIV (New Source Review for Toxic Air Contaminants) which requires a health risk assessment to be performed for permitting purposes.

The SCAQMD also recommends that health risk assessments be conducted for substantial sources of diesel PM_{10} (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions.[42] CARB's Airborne Toxic Control Measure (ATCM) was adopted in 2004 which limits heavy duty diesel engines from idling for more than 5 minutes at any given time. This applies to diesel powered vehicles with gross vehicle weight ratings greater than 10,000 pounds which are licensed to operate on highways, regardless of where they are registered.

Thus the increase in potential localized air toxic impacts from on-site sources of diesel particulate emissions would be minimal since only a limited number of heavy-duty trucks would access the project site and the trucks that do visit the site would not idle on the project site for extended periods of time. Although the proposed improvements would result in an increase in the retail square footage and presumably an increase in the number of delivery trucks for either the hotel or residential option, this ATCM would significantly limit potential incremental increase in emissions from loading dock activity.

[42] *SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions, December 2002.*

The proposed residential or hotel and retail uses may require the installation of additional back-up diesel powered emergency generators and boilers. New generators and boilers would be required to comply with all applicable rules and regulations including Best Available Control Technology (BACT). If the installation of new generators would result in multiple-generator groups, the installation would also be required to comply with recently promulgated Rule 1472 as part of Regulation XIV mentioned above, to ensure that localized risk remains below thresholds. Compliance with Rule 1472, if applicable, along with the low operational hours would result in substantially reduced potential impacts.

Based on the low incremental increase in the number and long-term (annual average) activity of the on-site toxic air contaminant sources, the proposed project (Residential and Hotel options) would not warrant the need for a refined health risk assessment, and potential air toxic impacts to on- and off-site receptors from on-site sources would be less than significant.

Typical sources of acutely and chronically hazardous toxic air contaminants include industrial manufacturing processes, automotive repair facilities, and dry cleaning facilities. The project would not include any of these potential sources, although minimal emissions may result from the use of consumer building products for maintenance purposes (e.g. painting). It is expected that quantities of any hazardous toxic air contaminants located on-site would be below thresholds warranting further study under CalARP. As such, the project would not release substantial amounts of toxic contaminants, and no significant impact on human health would occur. Based on the limited activity of the toxic air contaminant sources, the project does not warrant the need for a health risk assessment, and potential air toxic impacts would be less than significant.

Operational TAC Impacts

The ambient air environment that currently exists on and around the project site would also have the potential to impact the residential uses that would be developed as part of the project. Based on CARB siting recommendations, sensitive receptors should not be sited within 1,000 feet of a warehouse distribution center which have extensive heavy-duty truck activity, within 500 feet of a freeway or similar high traffic roadway (i.e., roads within urbanized areas carrying more than 100,000 vehicles per day), within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), 50 feet for typical gas dispensing facilities or within 300 feet of a dry cleaning facility that uses perchloroethylene, among other siting recommendations. CARB siting recommendations do not provide specific siting recommendations for ports.

The project would place sensitive receptors within 1,500 feet of the Port of Long Beach (POLB). The most recent health risk assessment performed for the POLB (Middle Harbor)

demonstrates that the project and the residences in the surrounding area are located within the 100 in a million cancer risk contour, which is mainly attributed to exhaust emissions from marine vessels[43]. Many existing residential uses are located within the 100 in a million cancer risk contour, including the trailer park south of the project site. As mentioned previously, the MATES III study demonstrates that existing total cancer risk in the vicinity of the proposed project ranges from 1,200 to 3,700 in one million, and that the cancer risk at the project site is approximately 2,350 in one million. It should be noted that the MATES III study includes risks resulting from emissions related to the Middle Harbor as well as many other TAC sources in the region.

As mentioned previously, the SCAQMD recommends a maximum incremental cancer risk of ten in one million as a threshold for sensitive receptors. Although the project would place receptors in an area which would exceed this threshold, the POLB is currently engaged in a Clean Air Action Plan which aims to significant reduce health risks and air pollution from port-related sources.[44] Pollution reduction measures include replacing or retrofitting older polluting diesel trucks, provide electricity to hostelling ships, and electrification of cargo moving equipment. Such reductions in port emissions would also reduce the POLB health risk contribution. Even with the emission reductions expected from the Clean Air Action Plan, the siting of residential uses on the project site would result in a potentially significant impact with regard to the exposure of on-site residents to the TAC emission sources identified in ARB's siting recommendations. Mitigation measures are discussed below.

(d) Global Climate Change Impacts

The proposed project contains project design features, as previously described, that would reduce the project's emissions profile and would represent improvements above "business as usual." The project would also be consistent with all applicable GHG reduction plans. As described above, this GHG analysis was performed in accordance with existing non-GHG specific SCAQMD and CARB guidance. There are many uncertainties involved in the quantification of GHG emissions from any individual development project. Newer building materials and practices, current energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago, but the net effect is difficult to quantify.

Emissions of GHGs were calculated for the existing and projected future uses with implementation for the project as demonstrated in the following table. Results are presented on

[43] *Middle Harbor Redevelopment Project FEIS/FEIR, Port of Long Beach. U.S. Army Corp of Engineers, April 2009.*

[44] *San Pedro Bay Ports Clean Air Action Plan, 2006.*

Table IV.B-8 on page IV.B-55. As shown, the site-specific net increase in GHG emissions from vehicle, electrical, and natural gas usage associated with the project is 18,861, which exceeds the 3,000 metric ton screening level. Also included in Table IV.B-8 are the estimated GHG emissions associated with a "business as usual" scenario, which assumes that no GHG reduction measures beyond what was legally required in 2006, when AB32 was signed. The proposed project represents a 22 percent reduction in GHG emissions from business as usual levels, rather than the 30 percent reduction specified in the GHG significance threshold. Therefore, the project's impact to global climate change would be significant and unavoidable at the project level.

(e) Pedestrian Wind-Related Impacts

The pedestrian-level wind study performed for the proposed project was conducted by RWDI, Inc., and utilized Hotel Option B as the basis for analysis of wind effects, as it was determined that this project option represented worst-case conditions regarding wind-related impacts. Based on the results of the pedestrian-level wind study performed for the proposed project, the development of proposed uses would have a minimal effect on pedestrian wind conditions off-site at surrounding land uses, or the difference in wind speeds at off-site locations is negligible relative to existing conditions.

The analysis of on-site wind effects is based on wind generated by structures during each of the three proposed development phases. Following development of the first phase office building in the western portion of the site, no adverse wind-related issues are expected to occur given the relatively isolated location of the structure relative to adjacent uses, and lack of interaction between structures with regard to wind.

Following implementation of the proposed project's second development phase, the west site development would be completed with the construction of the southerly residential tower and northerly residential/hotel tower. With second phase development, wind speeds in excess of applicable comfort criteria would occur at the plaza level on the west site, with high wind gust speeds concentrated around the façade of the office tower on the southwest side of the structure during the winter season, which is a result of southwesterly winds channeling between the two new towers. Additionally, the plaza level entrance to the north residential/hotel tower would experience wind speeds in exceed of comfort criteria. Generally speaking, the Phase Two development would not result in substantial adverse at-grade wind effects, but higher wind speeds would occur at the southeast corner of the west site resulting from easterly and westerly winds circulating around the south residential tower. As such, given that projected wind speeds would exceed comfort criteria for proposed uses, impacts at these locations would be considered potentially significant.

Table IV.B-8

Operational Greenhouse Gas Emissions (2020)

Emission Source	CO_2E[e] (Metric Tons)
Existing	
On-Road Mobile Sources (vehicles)[a]	6,081
Electricity[b]	1,256
Water Conveyance[c]	32
Natural Gas [d]	173
Total Annual Operations	**7,543**
Proposed Project	
Construction (amortized)	317
On-Road Mobile Sources (vehicles)[a]	18,931
Electricity[b]	4,249
Water Conveyance[c]	1,104
Natural Gas [d]	1,802
Total Annual Operations	**26,403**
Net Increase in Annual GHG Emissions	**18,861**
Greater than 3,000 tons?	**Yes**
Business as Usual	
Construction (amortized)	317
On-Road Mobile Sources (vehicles)[a]	25,404
Electricity[b]	4,941
Water Conveyance[c]	1,350
Natural Gas [d]	2,096
Total Annual Operations	**33,791**
GHG Reduction from Business as Usual	**7,387**
Percent Reduction in GHG Emissions	**22%**
Greater than 30%?	**No**

[a] *Mobile source values were derived using EMFAC2007 in addition to the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

[b] *Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993. Water conveyance energy rates from California Energy Commission Staff Report: California's Water - Energy Relationship. 2005.*

[c] *Statewide Greenhouse Gas Emissions Inventory: http://www.arb.ca.gov/cc/ccei/emsinv/emsinv.htm.*

[d] *Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.*

[e] *All CO2e factors were derived using the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

Source: PCR Services Corporation, 2009.

With completion of the proposed project's final phase, the eastern portion of the project site would be developed with the proposed office/residential tower. Under these conditions, only one location at the podium level would experience wind speeds of concern, which would be along the west side of the row of townhouses on eastern project site. Specifically, the patios/balconies experience higher wind speeds due to acceleration of southeasterly and northwesterly winds mixing and swirling down from the east site office/residential tower. Given the higher wind speeds at this location, impacts are considered potentially significant.

(f) SCAQMD Handbook Policy Analysis

In accordance with the procedures established in the SCAQMD CEQA Air Quality Handbook, the following criteria are required to be addressed in order to determine the project's consistency with SCAQMD and SCAG policies:

1. Will the project result in any of the following:

- An increase in the frequency or severity of existing air quality violations; or
- Cause or contribute to new air quality violations; or
- Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

With respect to this criterion, the SCAQMD requires that an air quality analysis for a project include forecasts of project emissions in a regional context during construction and project occupancy. These forecasts are provided earlier in this section. Since the criterion pertains to ambient pollutant concentrations, rather than to emissions, an analysis of the project's effects on pollutant concentrations is used as the basis for evaluating project consistency.[45] As discussed above, localized concentrations of PM_{10}, $PM_{2.5}$, CO, and NO_2 resulting from construction have been analyzed for the project with reference to localized significance thresholds. In addition, SO_2 emissions would be negligible during construction and long-term operations, and therefore would not have potential to cause or affect a violation of the SO_2 ambient air quality standard. VOC was considered with regard to a regional emissions threshold. There is no ambient standard or localized threshold for VOC, but due to the role VOC plays in ozone formation, a regional emissions threshold has been established.

Particulate matter is the primary pollutant of concern during construction activities, and therefore, the project's PM_{10} and $PM_{2.5}$ emissions during construction were analyzed (1) to

[45] *South Coast Air Quality Management District, CEQA Air Quality Handbook (1993), p. 12-3.*

ascertain potential effects on localized concentrations and (2) to determine if there is a potential for such emissions to cause or affect a violation of the ambient air quality standards for PM_{10} and $PM_{2.5}$. Results of the analyses indicate that the increases in PM_{10} emissions exceed applicable SCAQMD localized construction thresholds. It should be noted that the potential for this impact would be short-term and would not have a long-term impact on the region's ability to meet State and federal air quality standards. In addition, the project would be required to comply with SCAQMD Rule 403 and would implement all feasible mitigation measures for control of PM_{10}. Nevertheless, the project would have a significant temporary impact on localized PM_{10} and $PM_{2.5}$ concentrations.

The project's maximum potential NO_X and CO daily emissions during construction were analyzed to ascertain potential effects on localized concentrations and to determine if there is a potential for such emissions to cause or affect a violation of an applicable ambient air quality standard. The analysis concluded that CO and NO_2 concentrations for the project would not exceed CAAQS or NAAQS, and potential impacts would therefore be less than significant.[46]

Because the project would not introduce any substantial stationary sources of emissions, CO is the benchmark pollutant for assessing local area air quality impacts from post-construction motor vehicle operations. Based on methodologies set forth by the SCAQMD, one measure of local area air quality impacts that can indicate whether the project would cause or affect a violation of an air quality standard would be based on the estimated CO concentrations at selected receptor locations located in close proximity to the project site. As indicated earlier, CO emissions were analyzed using the CALINE-4 model. Based on that analysis, no violations of the State and federal carbon monoxide standards are projected to occur for the project.

Overall, the project would result in less than significant impacts with regard to localized concentrations of CO, NO_2, SO_2 and $PM_{2.5}$ during project construction and operations. However, long-term project operational emissions would exceed the SCAQMD regional significance threshold for VOC, NOx (ozone precursor) and PM_{10}. In addition, PM_{10} concentrations during construction would exceed the SCAQMD localized significance thresholds. Since the basin is currently in non-attainment for ozone and PM_{10}, an exceedance of VOC, NOx and PM_{10} thresholds could increase the severity of these existing violations. Therefore, the project would be inconsistent with the first AQMP criterion for consistency.

[46] *Please note that NO_x is used when describing emissions of nitrogen oxides, but that the ambient air quality standard is for NO_2 levels. The same applies for SO_x (emissions) versus SO_2 (ambient standard concentration). After being emitted, NO_x and SO_x are converted to NO_2 and SO_2 in ambient air.*

2. Will the project exceed the assumptions utilized in preparing the AQMP?

With respect to this second criterion for determining consistency with SCAQMD and SCAG air quality policies, air quality planning within the Basin focuses on the attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing and employment growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the project exceeds the assumptions utilized in preparing the forecasts presented in the AQMP. Determining whether or not a project exceeds the assumptions reflected in the AQMP involves the evaluation of three additional criteria: (1) consistency with the population, housing, and employment growth projections; (2) project mitigation measures; and (3) appropriate incorporation of AQMP land use planning strategies. The following discussion provides an analysis of each of these three criteria.

- Is the project consistent with the population, housing, and employment growth projections upon which AQMP forecasted emission levels are based?

A project is consistent with the AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. In the case of the 2007 AQMP, three sources of data form the basis for the projections of air pollutant emissions: SCAG's Growth Management Chapter of the RCPG, and SCAG's *2004 Regional Transportation Plan* (RTP). On May 8, 2008, SCAG has adopted the 2008 Regional Transportation Plan which is not incorporated into the 2007 AQMP. It is expected that the next update to the AQMP will be based on the 2008 RTP. The RTP also provides socioeconomic forecast projections of regional population growth. The project is consistent with the types, intensity and patterns of land use envisioned for the site vicinity in the RCPG. The population, housing, and employment forecasts which are adopted by SCAG's Regional Council are based on the local plans and policies applicable to the specific area; these are used by SCAG in all phases of implementation and review. For purposes of using the most current available data, the 2008 RTP data will be used in this analysis. Please refer to Section IV.F, Land Use, of this EIR for additional information regarding land use consistency.

In addition, the RTP projects that population in the City of Long Beach (Local Area) will grow by about 66,916 persons between 2009 and 2030. The Residential Option, which contains 1,370 residential units, is projected to result in a net population increase of approximately 4,851 persons, which is 6.8 percent of the total population growth projected for the Local Area. The RTP estimates that employment in the Local Area will grow by about 13,941 jobs between 2009 and 2030. The Hotel and Residential Options are projected to result in a net increase of approximately 1,339 and 838 full-time equivalent jobs respectively, or approximately six percent and 9.6 percent of the total job growth for the area respectively. Such levels of population and employment growth are consistent with the population and employment forecasts for the Local

Area as adopted by SCAG. Because the SCAQMD has incorporated these same projections into the AQMP, it can be concluded that the project would be consistent with the projections in the AQMP.

- Does the project implement all feasible air quality mitigation measures?

Implementation of all feasible mitigation measures is recommended to reduce air quality impacts to the extent feasible. The project would incorporate a number of key control measures identified by the SCAQMD, as summarized below. As such, the project meets this AQMP consistency criterion since all feasible mitigation measures would be implemented.

- To what extent is project development consistent with the land use policies set forth in the AQMP?

With regard to land use developments, such as the project, air quality policies such as the proposed AB 32 scoping plan and SB 375 focus on the reduction of vehicle trips and vehicles miles traveled. The project by virtue of its location and design, exhibits many attributes that have a positive direct and indirect benefit with regard to the reduction of vehicle trips and vehicles miles traveled. Specifically, the project is accessible to the I-710 freeway. In addition, public transit service near the project site is available on bus lines provided by the Los Angeles County Metropolitan Transportation Authority (Metro) Blue Line. With easy accessibility to a number of local and regional transit facilities, the project would also implement important air quality policies that contribute to reducing vehicle trips and vehicle miles traveled.

Additional means by which project development reduces vehicle trips and vehicle miles traveled is by encouraging pedestrian activity in a number of ways including: (1) providing public outdoor spaces which would enrich street life by encouraging walking connections between adjacent uses; and (2) incorporating landscaped areas and walkways linked to adjacent land uses, including a mix of land uses on site, in a manner that would create a pedestrian-friendly environment. Furthermore, the project represents an investment in high quality urban housing and redevelopment of an underutilized property with existing public infrastructure and in proximity to adequate services and facilities (e.g., retail, banking, restaurants, entertainment and office uses, as well as bus and shuttle services). Thus, project would also reduce costs of infrastructure construction and make better use of existing facilities and in so doing would support the sustainability of the community, all of which are desirable relationships from the perspective of promoting both land use and air quality policies. As the project implements the SCAQMD's objective of reducing vehicle miles traveled and their related vehicular air emissions, the project would be consistent with AQMP land use policy.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of the project on air quality in the Basin. While development of the residential or retail option would result in short-term regional impacts, project development would not have a long-term impact on the region's ability to meet State and federal air quality standards. The project would comply with SCAQMD Rule 403 and would implement all feasible mitigation measures for control of PM_{10} and $PM_{2.5}$. Also, the project would be consistent with the goals and policies of the AQMP for control of fugitive dust. As discussed above, the project's long-term influence would also be consistent with the goals and policies of the second criterion of AQMP consistency.

Although the project would be consistent with the second criterion of the AQMP consistency analysis, VOC, NOx, and PM10 emissions from project construction and operations would exceed applicable SCAQMD thresholds. As a result, the project could contribute to existing violations and would make the proposed development inconsistent with one of the two indicators of consistency. Therefore, the project would result in a significant impact with respect to consistency with the AQMP.

4. CUMULATIVE IMPACTS

a. Construction

Of the 19 related projects (see Section III) that have been identified within the project study area, there are a number of related projects that are approved or proposed or are currently under construction. Since the Applicant has no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be highly speculative.

With respect to the project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to Federal Clean Air Act mandates. In accordance with those strategies, the project would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures. In addition, the project would comply with adopted AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects Basin-wide, which would include each of the related projects mentioned above. Nevertheless, construction-period localized PM_{10} and $PM_{2.5}$ emissions associated with the proposed project are already projected to result in a significant impact to air quality. As

such, cumulative impacts to air quality during proposed project construction would also be significant.

Similar to the TAC emission potential of the project, the greatest potential for cumulative TAC emissions would involve diesel particulate emissions associated with heavy equipment operations during construction. Given that the project's contribution to cancer risk from construction activities would be less than significant and localized, it is reasonable to project that related projects would also not result in significant cancer risks from TAC emissions during construction (duration, transient), and that the areas of less-than-significant elevated cancer risks associated with construction of similar projects would not overlap to create a significant risk. Accordingly, the project's construction phase TAC emissions would not contribute to a cumulatively significant impact.

b. Operation

The SCAQMD's approach for assessing cumulative impacts related to operations is based on attainment of ambient air quality standards in accordance with the requirements of the Federal and State Clean Air Acts. As discussed earlier, the SCAQMD has developed a comprehensive plan, the 2007 AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. Because the Basin is currently in nonattainment for ozone, PM_{10} and $PM_{2.5}$, related projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the SCAQMD. In particular, CEQA Guidelines Sections 15064(h)(3) provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *"A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency…"*

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the project's incremental contribution to cumulative air quality impacts is determined based on compliance with the SCAQMD adopted 2007 AQMP.

The proposed project would not conflict with or obstruct implementation of the applicable air quality plan under the residential or hotel option, which in this case is the AQMP. A project is deemed inconsistent with air quality plans if it results in population and/or employment growth that exceeds growth estimates in the applicable air quality plan. In turn, the AQMP relies upon growth projections adopted by the SCAG, which in turn, relies upon adopted General Plan growth projections. Consequently, compliance with the City's General Plan typically results in compliance with the AQMP.

As discussed above, the project would not result in population and/or employment growth that exceeds growth estimates in the AQMP. In addition, the project would comply with all rules and regulations as implemented by the SCAQMD and the CARB, and would conform to the standards and guidelines of the City of Long Beach General Plan. Therefore, it was determined that the Residential Option and Hotel Options would be consistent with the AQMP. Thus, given the project's consistency with the AQMP, the project's incremental contribution to cumulative air quality effects is not cumulatively considerable, per CEQA Section 15064(h)(3).

Nonetheless, SCAQMD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. Instead, SCAQMD's approach to determining cumulative air quality impacts for criteria air pollutants is to first determine whether or not the proposed project would result in a significant project-level impact to regional air quality based on SCAQMD significance thresholds. If not, then the lead agency needs to consider the additive effects of related projects only if the proposed project is part of an ongoing regulatory program or is contemplated in a Program EIR, and the related projects are located within approximately one mile of the project site. If there are related projects within the vicinity (one-mile radius) of the project site, (i.e., that are part of an ongoing regulatory program or are contemplated in a Program EIR) then additive effects of the related projects should be considered.

As the proposed project is not part of an ongoing regulatory program, the SCAQMD recommends that project specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As discussed in above, peak daily operation-related emissions would exceed the SCAQMD regional significance thresholds. By applying SCAQMD's cumulative air quality impact methodology, implementation of the project would result in an addition of criteria pollutants such that cumulative impacts, in conjunction with related projects in the region, would occur. Therefore, the emissions of non-attainment

pollutants and precursors generated by operation under the project in excess of the SCAQMD project-level thresholds would be cumulatively significant.

Cumulatively, the project and related projects would not have a significant local impact with regard to the City's green building ordinance, because under the ordinance each project must meet the criteria for LEED® certification to obtain a building permit and move forward.

With respect to TAC emissions, neither the project nor any of the identified related projects (which are largely residential, restaurant, retail/commercial, and institutional developments), would represent a substantial source of TAC emissions. Uses typically associated with TAC emissions include large-scale industrial, manufacturing, and transportation hub facilities. Based on recommended screening level siting distances for TAC sources, as set forth in the California Air Resources Board's Land Use Guidelines, the project and related projects would not result in a cumulative impact requiring further evaluation. However, the project and each of the related projects would likely generate minimal TAC emissions related to the use of consumer products, landscape maintenance activities, among other things. As mentioned previously, the project is not expected to include gasoline dispensing land uses. Boilers may be installed as part of the project and would be required to comply with SCAQMD Rule 1146 which limits pollutant emissions from small and large boilers. Pursuant to the law enacted in 1983 by California Assembly Bill 1807 (Tanner, Stats. 1983, ch. 1047), as amended,[47] which directs the CARB to identify substances such as TAC and adopt ATCMs to control such substances, the SCAQMD has adopted numerous rules (primarily in Regulation XIV) that specifically address TAC emissions. These SCAQMD rules have resulted in and will continue to result in substantial Basin-wide TAC emissions reductions. As such, cumulative TAC emissions during long-term operations would be less than significant. In addition, the project would not result in any sources of TACs that have been identified by Land Use Guidelines, and thus, would not contribute to a cumulative impact.

In summary, the project would be consistent with the 2007 AQMP and the Long Beach General Plan. Also, operational TAC emissions from project operations would not contribute to a cumulative impact. However, operational emissions from the project would exceed SCAQMD regional significance thresholds. Therefore, the project would result in a significant cumulative impact with regard to regional operational emissions.

[47] *Calif. Health and Safety Code §§ 39650 et seq.*

c. Global Climate Change

As stated above, an increase in the generation and emission of GHGs is not itself an adverse environmental effect. Rather, it is the increased global accumulation of GHGs in the atmosphere that may result in global climate change that causes adverse environmental effects. The State, with AB 32, has mandated a goal of reducing state-wide emissions to 1990 levels by 2020, even though State-wide population and commerce is predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce Statewide GHG emissions. However, currently there are no significance thresholds, no official baseline inventory or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative level. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represents new emissions or existing, displaced emissions.

Assembly Bill 1493 mandates that CARB create GHG emission reduction rules for cars and light trucks. The new rules are proposed to go into effect in 2009 and will be fully implemented by 2016. According to the CEC, the reductions in emissions will be equivalent to reducing gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020. The project is slated for occupancy after these regulations go into effect and therefore a percentage of the cars used by residents of the project will emit lower levels of GHG from VMT than cars currently on the road. The anticipated emission reductions are not taken into account for this project, and future CO2e emission factors would be reduced when these measures go into effect. When the rules are fully implemented and older cars are replaced with AB 1493 compliant vehicles there will be further reduction in GHGs from trips to and from the project.

Governor Schwarzenegger's Executive Order S-3-05, which established GHG emissions targets for the state through the year 2050, a date beyond AB 32's mandates. As a result of the executive order, the CAT, led by the Secretary of the California EPA, was formed. The CAT published its report in March, 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the executive order.[48] The project features listed in Table IV.B-9 on page IV.B-65 apply directly to CAT strategies for reducing GHG emissions.

Emitting GHGs into the atmosphere is not itself an adverse environmental effect. Rather, it is the increased global accumulation of GHGs in the atmosphere that may result in global climate change. The consequences of that global climate change can cause adverse

[48] *California Climate Action Team. Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.*

Table IV.B-9

Option
Project's Consistency with Recommendations Presented in the CAT Report

Strategies for Reducing GHG Emissions	Project Conformance
Diesel Anti-Idling Reduce GHG emissions from diesel-fueled commercial motor vehicle idling, by reducing idling times and electrifying truck stops.	Signs will be posted throughout the construction site to state that all construction vehicles would be prohibited from idling in excess of five minutes, both on- and off-site.
Alternative Fuels: Biodiesel Blends and Ethanol Increase the use of alternative fuels that are less GHG-intensive, by adopting regulations to require the use of biodiesel to displace California diesel fuel, increasing the number of flexible fueled vehicles present in California, and increasing the percentage of ethanol used in gasoline.	The project would provide preferred parking to alternative fuel vehicles as reasonably feasible.
Achieve 50 percent Statewide Recycling Goal Achieve California's 50 percent waste diversion mandate (AB 939, Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction. AB 939 required each city or county plan to include an implementation schedule that showed 50 percent diversion of all solid waste by January 1, 2000, through source reduction, recycling, and composting.	The project would divert at least 50 percent of construction waste from disposal.
Urban Forestry Increase carbon sequestration by planting five million trees in urban areas statewide by 2020.	Landscaping for the project would include planting several trees that are the most conducive to sequestering carbon (fast-growing) while remaining drought-resistant.
Water Use Efficiency Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	The project would use high-efficiency water fixtures, waterless urinals, and water-efficient appliances where appropriate. Landscaping with native plants would also reduce irrigation demand.
Building Energy Efficiency Standards in Place and in Progress Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates building energy efficiency standards that apply to newly constructed buildings and additions to and alterations to existing buildings. Both the Energy Action Plan and the Integrated Energy Policy Report call for ongoing updating of the standards	The project would be designed to meet LEED® certification standards. Therefore, the project would reduce energy consumption by at least 14 percent beyond its ASHRAE baseline.
Measures to Improve Transportation Energy Efficiency Advance cleaner transportation and reduce GHG emissions by providing incentives, enhancing outreach and educational programs to bring a coordinated message of sustainable transportation and root causes of GHG emissions, diversifying the transportation energy infrastructure, and slowing the rate of VMT growth.	The project would provide preferred parking to alternative-fuel vehicles and ride-sharing vehicles as reasonably feasible. Upgraded bus waiting areas would be constructed. Bicycle storage areas for residents and customers as well as employees biking to work would also be provided.

Table IV.B-9 (Continued)

Project's Consistency with Recommendations Presented in the CAT Report

Strategies for Reducing GHG Emissions	Project Conformance
Smart Land Use and Intelligent Transportation	
Apply strategies that integrate transportation and land-use decisions to reduce VMT, such as promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	The project would add housing within a major commercial office and mixed use area. The project site is located along a transit corridor.
Green Buildings Initiative	
Reduce energy use in private buildings.	The project implements several energy-saving "green" design techniques, including but not limited to efficient water systems, landscaping, insulation, heating and cooling systems, and alternative transportation promotion.

Source: PCR Services Corporation, 2009.

environmental effects. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, it is not possible to predict the specific impact, if any, on global climate change from one project's relatively small incremental increase in emissions.

While it is difficult at this time to quantify the reductions in greenhouse gas emissions anticipated from the above-listed statewide and citywide measures, the project would be consistent with the goals of the State of California and City of Long Beach. By incorporating energy and VMT reducing features such as designing, constructing, and operating the project to be LEED® certifiable, installing appliances, fixtures, and infrastructure that use less energy and water, and by locating housing near to mass transit and employment centers, the project will result in lower GHG emission rates compared to current standards and practices. However, because it is not possible at this stage of planning to quantify the GHG reductions associated with such features, the proposed project's contribution to the cumulative impact of global climate change is considered significant and unavoidable.

d. Pedestrian Wind Effects

Impacts related to pedestrian-level wind effects are generally limited to post-construction occupancy of development projects, and are considered site-specific. As such, no construction-related cumulative pedestrian wind effect impacts are expected to occur.

Operational wind effect impacts associated with the proposed project would be considered significant without implementation of applicable design features included below as mitigation. It is assumed that any of the related projects included in Table III-1 in Section III, Basis for Cumulative Analysis, would be required to implement similar project-specific measures to address pedestrian-level wind effects, as applicable. Overall, given the site-specific nature of operational pedestrian wind effects, the inclusion of project-specific mitigation measures, and the lack of related project development in the immediate project area with the potential to result in combined wind effects, cumulative operational pedestrian-level wind impacts would be considered less than significant.

5. MITIGATION MEASURES

With the implementation of the project design features, project construction and operation would result in significant impacts with regard to air quality. Construction mitigation measures presented below would help reduce localized PM_{10} and $PM_{2.5}$ impacts during site preparation and grading. Operational impacts for localized emissions are less than significant and mitigation is not required. However, since regional operational emissions exceed significance thresholds, mitigation measures are provided in order to reduce potential impacts.

The *CEQA Air Quality Handbook* suggests that the following mitigation measures, which are consistent with SCAQMD Rule 403 (Appendix B) and set forth a program of air pollution control strategies designed to reduce the project's air quality construction impacts to the extent feasible. With regard to operational emissions, Mitigation Measures B-7 and B-8 would serve to reduce significant regional operational impacts. In addition, since the project is located near major sources of TACs (Port and Freeway), Mitigation Measure B-9 is provided to reduce potential health risks to on-site sensitive receptors. In order to address potential impacts related to pedestrian wind effects, Mitigation Measures B-11 through B-14 are also provided.

a. Construction

Mitigation Measure B-1: Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.

Mitigation Measure B-2: Water exposed surfaces at least three times a day under calm conditions. Water as often as needed on windy days when winds are less than 25 miles per hour or during very dry weather in order to maintain a surface crust and prevent the release of visible emissions from the construction site. This mitigation measure would reduce PM_{10} and $PM_{2.5}$ emissions during construction.

Mitigation Measure B-3: In addition to being covered (Rule 403 minimum), all trucks hauling dirt, sand, soil or other loose materials off-site shall be wetted or shall maintain at least two feet of freeboard (i.e., minimum vertical distance between the top of the material and the top of the truck). Wash (or shaker plate) mud-covered tires and under-carriages of trucks leaving construction sites. This mitigation measure would reduce PM_{10} and $PM_{2.5}$ emissions during construction.

Mitigation Measure B-4: Sweep adjacent streets, as needed, to remove dirt dropped by construction vehicles or mud that would otherwise be carried off by trucks departing the site. This mitigation measure would reduce PM_{10} and $PM_{2.5}$ emissions during construction.

Mitigation Measure B-5: Securely cover loads with a tight fitting tarp on any truck leaving the construction site. This mitigation measure would reduce PM_{10} and $PM_{2.5}$ emissions during construction.

Mitigation Measure B-6: Building walls shall be watered prior to use of demolition equipment. This mitigation measure would reduce PM_{10} and $PM_{2.5}$ emissions during construction.

b. Operation

Mitigation Measure B-7: The Project Applicant shall, as feasible, schedule deliveries during off-peak traffic periods to encourage the reduction of trips during the most congested periods. This mitigation measure would reduce all criteria pollutant emissions during operation.

Mitigation Measure B-8: The Project Applicant shall, to the extent reasonably feasible, install energy-efficient appliances (e.g., ENERGY STAR) to reduce energy consumption. This mitigation measure would reduce all criteria pollutant emissions during operation.

Mitigation Measure B-9: The project shall include air filtration systems for residential dwelling units designed to have a minimum efficiency reporting value (MERV) of 17 as indicated by the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.2, which is designed to remove approximately 99.97% of PM_{10}. The air handling systems shall be maintained on a regular basis per manufacturer's recommendations by a qualified technician employed or contracted by the project proponent or successor. Operation and maintenance of the system shall ensure that it performs at or above the minimum reporting value.

The following mitigation measures would address pedestrian wind effects resulting from implementation of the various phases of the proposed project:

Mitigation Measure B-10: In order to address pedestrian-level wind effects along the southwest edge of the proposed Phase 1 office tower in the west project site, physical barriers such as landscaping and/or trellises shall be provided to reduce wind speeds at this location.

Mitigation Measure B-11: In order to address pedestrian-level wind effects at the entrance to the proposed northerly Phase 2 residential/hotel tower in the west project site, canopies or recessed entries shall be provided at building entrances on podium level to reduce wind speeds at this location.

Mitigation Measure B-12: In order to address pedestrian-level wind effects along the northern edge of the proposed southerly Phase 2 residential tower in the west project site, canopy trees shall be provided to reduce at-grade wind speeds at this location. This requirement shall only be necessary prior to construction of the Phase 3 office/residential tower east of Golden Shore, as development of the east site tower would serve to reduce wind speeds at this location to within applicable comfort criteria.

Mitigation Measure B-13: In order to address pedestrian-level wind effects along the west side of the row of townhouses within the eastern project site, partitions between townhome balconies, as well as trellises above patios, shall be provided in order to improve conditions and reduce wind speeds to within applicable comfort criteria.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

a. Construction

Significant impacts related to construction regional emissions during construction are anticipated to occur for the project even with mitigation**.** Implementation of the mitigation measures described above would reduce construction emissions for all pollutants. Implementation of the mitigation measures described above would reduce localized PM_{10} emissions by approximately 10 percent during the site grading phase. Even with incorporation of mitigation measures, the project would remain in exceedance of the SCAQMD localized construction threshold for PM_{10} and $PM_{2.5}$, therefore, this impact is considered significant and unavoidable at both the project and cumulative level. Cumulative impacts associated with construction of the project described above would also remain significant. Since localized PM_{10} emissions would continue to exceed applicable thresholds, the project would result in significant

and unavoidable impacts with regard to AQMP consistency. Detailed mitigated construction emission calculations results are provided in Appendix B of the EIR.

No significant impacts related to TAC emissions during construction are anticipated to occur for the project (see Section 3c(2)(c), above). As such, potential TAC impacts would be less than significant.

b. Operation

The project includes numerous features to reduce vehicular traffic, including encouraging the use of mass transit and encouraging pedestrian and bicycling as viable means of accessing the project site by employees, residents, and visitors. These project features have been incorporated into the analysis to reduce mobile source impacts to the maximum extent possible.

In addition, both project options are designed as a mixed-used development with the intent of reducing vehicular trips and congestion as well as promoting pedestrian travel. This is accomplished by providing housing in close proximity to jobs, services and retail uses. Trips among such land uses can then occur without, or with very limited use of, private motor vehicles. Although not considered a mitigation measure or project feature, the mixed use design would contribute to the reduction of mobile source impacts in the region. Additional mobile source mitigation measures as listed above would have a negligible effect on total daily trips.

Mitigation Measures B-7 and B-8 would reduce regional operational emissions. However, insufficient data is available to quantify the reductions associated with these mitigation measures. Therefore, even with mitigation, regional operational emissions would still exceed the SCAQMD daily emission thresholds for VOC, NO_X and PM_{10}. Therefore, operation of the project would have a significant and unavoidable impact on long-term regional air quality. Since regional operational emissions exceed SCAQMD thresholds, the project would also result in a significant and unavoidable cumulative impact.

The project itself is not expected to generate substantial TAC emissions during long-term operations. However, as mentioned previously, the project would place residential uses within the 100 in a million cancer risk contour resulting from POLB marine vessel emissions (diesel particulates). As determined by the MATES III study, the majority (84%) of health risk within the region is attributed to diesel particulate emissions. Mitigation Measure B-9 would require MERV 17 filtration be installed on the intake to all residential units; MERV 17 would reduce diesel particulates and PM_{10} exposure by 99.97 percent. With such a reduction in diesel particulate exposure, cancer risk to on-site residences would be reduced to acceptable thresholds. Therefore, with mitigation, the project would result in a less than significant impact with regard to operational TAC exposure.

Mitigation Measures B-10 to B-13 would address potential pedestrian wind effects. Specific adjustments to the landscaping and building design would reduce wind speeds to

comfortable levels. Therefore, the project would result in a less than significant impact with regard to pedestrian wind effects.

c. Global Climate Change

Mitigation Measure B-8 would reduce GHG emissions from the proposed project. Energy Star® appliances use 10 to 50 percent less energy and up to 50 percent less water than their counterparts. The project will incorporate additional project design features as part of LEED® certification. However, at this stage in the design process, there is insufficient data to quantify the GHG reductions from Mitigation Measure B-8 and other LEED features that will be incorporated to achieve certification. Thus, impacts to global climate change would remain significant and unavoidable on a project level, and accordingly cumulative impacts to global climate change would also be considered significant and unavoidable.

As such, given the above significant unavoidable impacts, if the City of Long Beach approves the proposed project, the City shall be required to cite their findings in accordance with Section 15091 of the CEQA *Guidelines* and prepare a Statement of Overriding Considerations in accordance with Section 15093 of the CEQA *Guidelines*.

IV. ENVIRONMENTAL IMPACT ANALYSIS
C. CULTURAL RESOURCES

1. INTRODUCTION

The purpose of this section is to evaluate potential impacts on paleontological, archaeological, and Native American cultural resources that could occur with implementation of the proposed project. The analyses and recommendations presented in this section are based on records searches conducted through paleontological, archaeological, and Native American records holding institutions, literature review, and historic map analysis. Specifically, the paleontological records search was commissioned by PCR through the Natural History Museum of Los Angeles County (LACM) and an archaeological records search was conducted by PCR staff archaeologists at the California Historical Resources Information System South Central Coastal Information Center (CHRIS-SCCIC) at California State University, Fullerton. In addition, PCR commissioned a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC) and follow-up Native American consultation. As the project site is fully developed with no visible native ground surface, a pedestrian survey was not conducted as part of this analysis. The results of these record searches are included in Appendix C of this EIR. Based on the nature of cultural resources-related impacts, the following analysis addresses the overall redevelopment of the project site and does not differentiate between the various project options contemplated by the applicant, as impacts do not measurably vary between these options.

2. ENVIRONMENTAL SETTING

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those localities.

Archaeology is the recovery and study of material evidence of human life and culture of past ages. Over time, this material evidence becomes buried, fragmented or scattered or

otherwise hidden from view. It is not always evident from a field survey if archaeological resources exist within a project site. Thus, the possible presence of archaeological materials must often be determined based upon secondary indicators, including the presence of geographic, vegetative, and rock features which are known or thought to be associated with early human life and culture, as well as knowledge of events or material evidence in the surrounding area. In urban areas such as the project site and environs, archaeological resources may include both prehistoric remains and remains dating to the historical period, defined for the purposes of CEQA as remains 45 years old or older.

a. Regulatory Framework

Numerous laws and regulations require federal, State, and local agencies to consider the effects of a proposed project on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended; the California Environmental Quality Act (CEQA); and the California Register of Historical Resources, Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of historic resources of national, State, regional, and local significance. Other relevant regulations at the local level include the City of Long Beach Cultural Heritage Commission Ordinance (Section1, Chapter 2.63 of the City of Long Beach Municipal Code). A description of the applicable laws and regulations is provided in the following paragraphs.

(1) Federal Level

(a) Paleontological Resources

Federal protection for significant paleontological resources would apply to the project if any construction or other related project impacts occurred on federal owned or managed lands. Federal legislative protection for paleontological resources stems from the Antiquities Act of 1906 (PL 59-209; 16 United States Code 431 et seq.; 34 Stat. 225), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands. Because the project site is on privately owned land, this federal statute is not applicable.

(b) Archaeological Resources

(i) National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the National Register of Historic Places (National Register) was established by the NHPA of 1966, as "an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment."[1] The National Register recognizes properties that are significant at the national, State and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria:[2]

a. Are associated with events that have made a significant contribution to the broad patterns of our history;

b. Are associated with the lives of persons significant in our past;

c. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing.[3]

In addition to meeting the criteria of significance, a property must have integrity. Integrity is understood as "the ability of a property to convey its significance."[4] The National

---

[1] *Code of Federal Regulations (CFR), 36 Section 60.2.*

[2] *U.S. Department of the Interior, National Park Service, National Register Bulletin: How to Apply the National Register Criteria for Evaluation (Washington, DC: National Park Service, 1995).*

[3] *Exceptional Significance as defined by National Register Criteria Consideration G: Properties That Have Achieved Significance Within the Past Fifty Years. National Register Bulletin: How to Apply the National Register Criteria for Evaluation (Washington, DC: National Park Service, 1995).*

Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.[5] The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

(2) State Level

(a) Paleontological Resources

Paleontological resources are also afforded protection by environmental legislation set forth under CEQA. Appendix G (part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, stating that "a project will normally result in a significant impact on the environment if it will …disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the PRC specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources.

(b) Archaeological Resources

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdictions.

(c) Sacred Lands File Search and Native American Consultation

The State NAHC is responsible for conducting Sacred Lands File (SLF) searches to assist in the identification of Native American or prehistoric resources that may be impacted by implementing proposed projects. The SLF refers to the inventory of Native American or prehistoric resources that the NAHC maintains. The primary source of information for the SLF is California Native American individuals and groups. They provide valuable locational information to the NAHC regarding resources that may not otherwise be shared with the CHRIS-

[4] *National Register Bulletin 15, p. 44.*

[5] *Ibid.*

SCCIC, other regional information centers, or other archives that maintain records on Native American or prehistoric resources. As a result, it has been established as an industry-wide standard to conduct SLF searches for all projects subject to CEQA to ensure that an exhaustive effort has taken place to identify Native American or prehistoric resources. Moreover, the NAHC recommends follow-up contact with Native American groups and/or individuals identified by the NAHC as having affiliation with the study area vicinity. NAHC recommended procedures for follow-up contact includes distribution of a project description, location map, and request for information about Native American resources that may be affected by the proposed project. Results of the follow-up contact provide information regarding the presence of any locations in the vicinity of the study area that are culturally sensitive to Native Americans that may not be included in the SLF search and the CHRIS-SCCIC records. Native American burials in California are protected by several statutes from *California Public Resources Code Chapter 1.75 Section 5097.9 – 5097.991 and Section 7050 of the Health and Safety Code.*

(d) California Register of Historical Resources

Created by Assembly Bill 2881 which was signed into law on September 27, 1992, the California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[6] The criteria for eligibility for the California Register are based upon National Register criteria.[7] Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.[8]

To be eligible for the California Register of Historical Resources, a pre-historic or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. Is associated with the lives of persons important in our past;

---

[6] *California Public Resources Code Section 5024.1(a).*

[7] *California Public Resources Code § 5024.1(b).*

[8] *California Public Resources Code § 5024.1(d).*

c. 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; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- *California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places.*
- *California Registered Historical Landmarks from No. 770 onward.*
- *Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.*

Other resources that may be nominated to the California Register include:

- *Historical resources with a significance rating of Category 3 through 5.*[9]
- *Individual historical resources.*
- *Historical resources contributing to historic districts.*
- *Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.*

[9] *Those properties identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and/or a local jurisdiction register.*

(e) California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (Public Resources Code Sections 21000 et seq.). As defined in Section 21083.2 of the Public Resources Code a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- *Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.*
- *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
- *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

In addition, CEQA Section 15064.5 broadens the approach to CEQA by using the term "historical resource" instead of "unique archaeological resource." The CEQA Guidelines recognize that certain archaeological resources may also have significance. The Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in Public Resources Code §5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code §5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of §21084.1 of the Public Resources Code and §15064.5 of the Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the Guidelines, then the site is to be treated in accordance with the provisions of Public Resources Code §21083.2, which refer to a unique archaeological resource. The Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (Guidelines §15064.5(c)(4)).

(3) Local Level—City of Long Beach

Archaeological Resources—City of Long Beach

The City of Long Beach enacted a Cultural Heritage Commission Ordinance in 1973, which created the City's Cultural Heritage Commission and criteria for the designation of City Historic Landmarks. According to the ordinance, Historic Landmarks are any sites (including significant trees or other plant-life located thereon), buildings, or structures of particular historic or cultural significance to the City of Long Beach in which the broad cultural, economic, political, or social history of the nation, state, or city is reflected or exemplified. Historic Landmarks are regulated by the City's Cultural Heritage Commission, which reviews permits to alter, relocate, or demolish these landmarks. In addition, the City of Long Beach is currently in the process of preparing a Historic Preservation Element (HPE) as an optional element of the City of Long Beach's 2010 General Plan.

The City's Cultural Heritage Commission Ordinance (Section1, Chapter 2.63 of the City of Long Beach Municipal Code) establishes criteria for designating local historic resources as Long Beach Historical Landmarks. The City's criteria are sufficiently broad enough to include a wide variety of historic resources, including archaeological sites. However, a proposed resource should possess sufficient architectural, historical, and/or cultural significance to warrant designation. Though there is no age requirement for designation as a historic landmark, sufficient time to develop an accurate historical perspective and to evaluate its significance in context should be considered. A historic landmark must satisfy one or more of the City's criteria, which are defined as the following:

- *It possesses a significant character, interest or value attributable to the development, heritage or cultural characteristics of the City, the southern California region, the state or the nation, or if it is associated with the life of a person significant in the past; or*

- *It is the site of an historic event with a significant place in history; or*

- *It exemplifies the cultural, political, economic, social, or historical heritage of the community; or*

- *It portrays the environment in an era of history characterized by a distinctive architectural style; or*

- *It embodies those distinguishing characteristics of an architectural type or engineering specimen; or*

- *It contains elements of design, detail, materials, or craftsmanship which represent a significant innovation; or*

- *It is part of or related to a distinctive area and should be developed or preserved according to a specific historical, cultural or architectural motif; or*

- *It represents an established and familiar visual feature of a neighborhood or community due to its unique location or specific distinguishing characteristic; or*

- *It is, or has been, a valuable information source important to the prehistory or history of the City, southern California region or the State; or*

- *It is one of the few remaining examples in the City, region, state or nation possessing distinguishing characteristics of an architectural or historic type. (Ord. C-6961 § 1 (part), 1992)*

b. Existing Conditions

(1) Historical Background

Prehistoric archaeological resources identified in the greater urban Los Angeles area include remains with very old dates, such as the Los Angeles Man remains recovered in 1936 by Work Progress Administration (WPA) workers digging a storm drain along the Los Angeles River. Radiocarbon dates have indicated an age greater than 20,000 years old, although small amount of collagen tested from the remains makes the date suspect. The remains were found in association with mammoth bones, however, so the remains can be considered Pleistocene or earliest Holocene in age.[10] One of the oldest sets of securely dated human remains discovered in North America, with an age between 13,000 and 13,500 years ago, were identified at Arlington Springs on Santa Rosa Island, which is located approximately 100 miles west-northwest of the project site.[11] In the project site vicinity, prehistoric remains are most likely to represent past occupation by the Gabrielino.

The Gabrielino were one of the most populous ethnic nationalities of aboriginal southern California. Gabrielino territory included the Los Angeles Basin, the coast of Aliso Creek in Orange County to the south to Topanga Canyon in the north, the four southern Channel Islands,

[10] *Moratto, Michael (1984) California Archaeology. Academic Press, New York.*

[11] *Johnson, John R., Thomas W. Stafford, Jr., Henry O. Ajie, and Don P. Morris (2002) Arlington Springs Revisited. Proceedings of the Fifth California Islands Symposium, edited by David R. Brown, Kathryn C. Mitchell, and Henry W. Chaney, pp. 541-545. Santa Barbara Museum of Natural History, Santa Barbara.*

and watersheds of the Los Angeles, San Gabriel, and Santa Ana Rivers. Their name is derived from their association with Mission San Gabriel Archangel.

The Gabrielino were not the first inhabitants of the Los Angeles Basin, but arrived around 500 B.C. The language of the Gabrielino people has been identified as a Cupan language within the Takic family, which is part of the larger Uto-Aztecan language family. Uto-Aztecan speakers arrived in southern California in what is known as the Shoshonean migration, which current archaeological and linguistic evidence suggests originated in of the Great Basin and displaced the already established Hokan speakers. The Gabrielino were advanced in their culture, social organization, religious beliefs, and art and material production. Class differentiation, inherited chieftainship, and intervillage alliances were all components of Gabrielino society. At the time of European contact, the Gabrielino were actively involved in trade using shell and beads as currency. The Gabrielino were known for excellent artisanship in the form of pipes, ornaments, cooking implements, inlay work, and basketry. The Gabrielinos evolved an effective economic system which managed food reserves (storage and processing), exchanged goods, and disturbed resources. Otherwise, few specifics are known of Gabrielino lifeways. Data collected and presented by A. L. Kroeber in 1925 indicate that homes were made of tule mats on a framework of poles, but size and shape have not been recorded. Basketry and steatite vessels were used rather than ceramics; ceramics became common only toward the end of the mission period in the nineteenth century. The Gabrielino held some practices in common with other groups in southern California, such as the use of jimsonweed in ceremonies as did the Luiseño and Juaneño, but details of the practices and the nature of cultural interaction between the Gabrielino and other groups in southern California are unknown.

Population estimates are based solely on estimates gleaned from historical reports. There were possibly more than 100 mainland villages, Spanish reports suggested village populations ranged from 50 to 200 people.[12] Prior to actual Spanish contact the Gabrielino population had been decimated by diseases.[13] The diseases were probably European diseases spread via coastal stopovers by early Spanish maritime explorers.

A map of Gabrielino villages was produced by William McCawley based on documented during the Portola expedition in 1769 and other ethnographic records. Although the scale of the map is small, a coastal strand village by the name of *'Ahwaanga'* is shown near the project site, as illustrated in Figure IV.C-1 on page IV.C-12. In Southern California, the coastal strand is defined as a narrow strip extending along the ocean's edge for 75 miles and inland for five miles.

---

[12] *Bean, L. J. and C. R. Smith (1978) Gabrielino. Handbook of North American Indians, Vol. 8, California, edited by R. F. Heizer, pp. 538-549. Smithsonian Institution, Washington, D.C.*

[13] *Tac, Pablo (1930) Conversion de los San Luisenos de Alta California. Proceedings of the 23rd International Congress of Americanists, New York.*

It includes 375 square miles of territory and, based on geographical features, is divided into two regions: the northern (sheltered) coast; and the southern (exposed) coast.[14] The exposed coast extended from San Pedro southward to the vicinity of Aliso Creek. During Gabrielino times the shoreline of San Pedro Bay was characterized by fresh and saltwater marshes. Those communities located in the vicinity of the project site on the southern coastal plain are *'Ahwaanga'* and *'Swaanga'*. Ethnological studies indicate three important Gabrielino communities located within the present boundaries of the City of Long Beach were *'Tevaaxa'anga'*, *'Ahwaanga'*, and *'Povuu'nga.'*[15]

Due to the relatively long history of commercial and port development in the project vicinity, the full extent and density of Gabrielino occupation of the area is unknown. However, previously recorded cultural resources in the southern coastal region are known to be quite extensive.[16] The majority of the sites known from the southern coast belonged to a large complex of semi-autonomous villages and satellite sites which ringed San Pedro and Long Beach Harbors from A.D. 1000 until A.D. 1800.[17]

In the Drake Park/Willmore Historic District of Long Beach, Drake Park was named in honor of Charles R. Drake, the founder of the Seaside Water Company who developed the area as a residential subdivision. Drake Park is situated upon a natural bluff or raised terrace and was originally founded as Knoll Park and acquired by the City of Long Beach.[18] To the west, along the base of the Drake Park bluffs once flowed the Cerritos Slough a natural body of surface water which was fed by the groundwater of the wide flood plain at the mouth of the Los Angeles River. During the original construction of Knoll Park, a substantially stratified prehistoric archaeological site including human remains was recorded.[19] The existing archaeological site is a previously recognized and recorded cultural resource and is designated as CA-LAN-693 in the

[14] *Hudson, Dee Travis. 'Proto-Gabrielino Patterns of Territorial Organizations in South Coastal California.' Pacific Coast Archaeological Society Quarterly 5(1). 1971.*

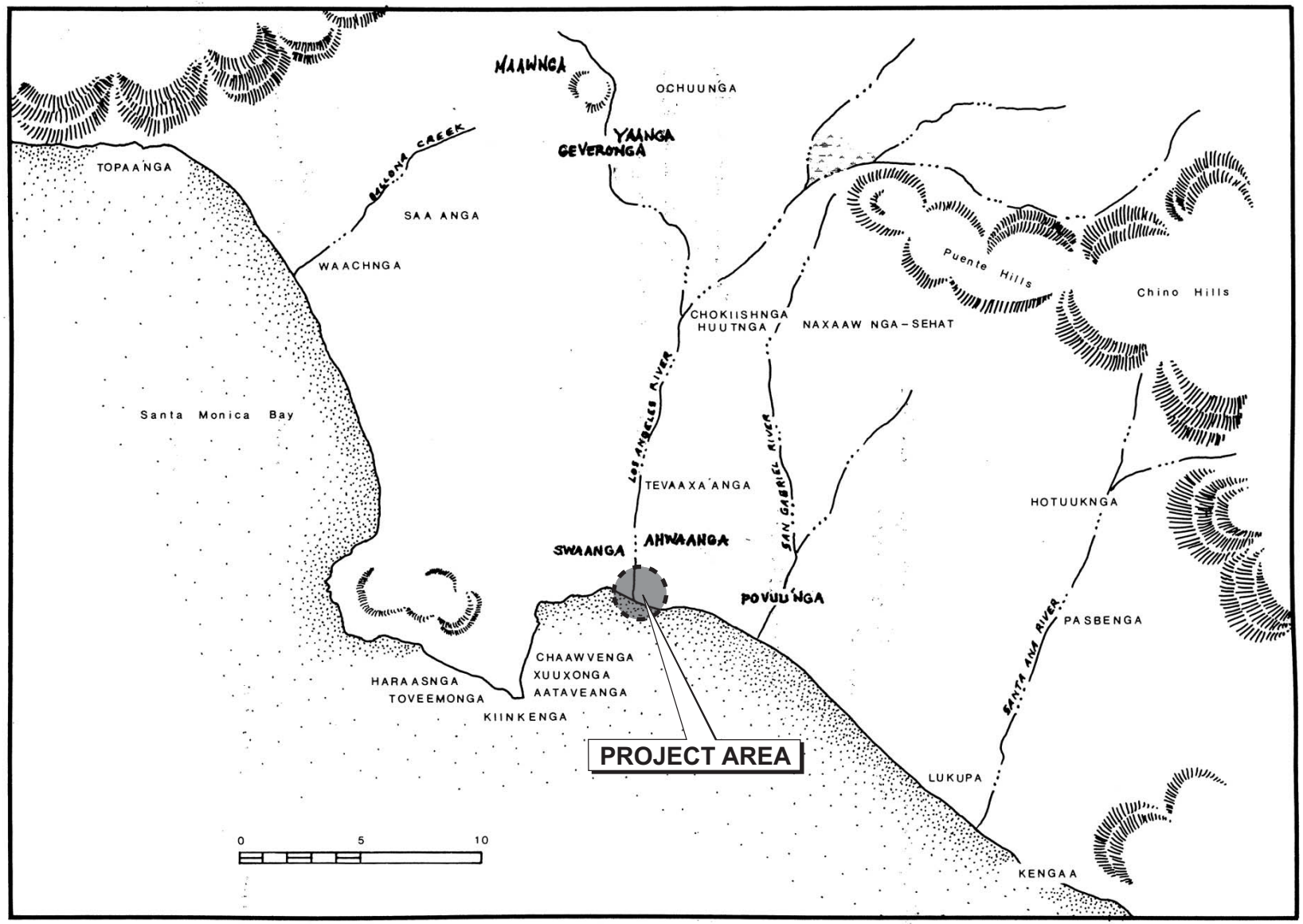
[15] *McCawley, William. 'The First Angelinos: the Gabrielino Indians of Los Angeles.' Malki Museum Press, Morongo Indian Reservation, Banning, California. 1996.*

[16] *Wallace, William J. 'A Suggested Chronology for Southern California Coastal Archaeology.' Southwestern Journal of Anthropology. Volume 11, Pages 214-230.*

[17] *Ibid.*

[18] *Case, Walter H. 'History of Long Beach and Vicinity,' Vol. 1. The S. J. Clarke Publishing Company. Chicago. Page 22. 1927.*

[19] *Case, Walter H. 'History of Long Beach and Vicinity,' Vol. 1. Quote: "…while the laying out of Knoll Park (now Drake Park) in 1906 revealed, in a large number of human skeletons, together with the implements placed among them, the existence of an old burying-ground right in the heart of town." Page 27. 1927.*



Map 8. Gabrielino communities located on the Los Angeles-Santa Ana Plain. The modern river courses are depicted; however, prior to 1867 the San Gabriel River lay farther west and emptied into San Pedro Bay.

PCR

Figure IV.C-1
Gabrielino Villages McCawley Map

Source: The First Angelinos: The Gabrielino Indians of Los Angeles, 1996.

Drake Park/Willmore Historic District located 0.75 miles north of the project site.[20] Ethnographic analysis of this location concluded that this location was likely part of the village of *'Ahwaanga'* which is recorded on the east bank of the Los Angeles River near its mouth.[21] The large Gabrielino village of *'Swaanga'* is also known to have been located in the vicinity of San Pedro Bay along the edge of the flood plain to the west of the Los Angeles River.[22] The Gabrielino seem to have had a preference for village settlement sites on high ground at a moderate distance from the rivers.[23] These villages were occupied as late as the 1700s and early 1800s as evidenced by notations in the baptismal registers of Mission San Gabriel.[24]

The topography of the location is highly suitable for long term occupation and during the prehistoric period was situated directly adjacent to the east of the historic the Los Angeles River flood plain embayment and to the south of the Cerritos Slough.[25] If this argument is correct, it would place the village within approximately a mile or less to the north of the project site. While this does not confirm the presence of Native American remains or other prehistoric resources within the project site, it illustrates a relatively dense late prehistoric occupation of the area which may have left either village or associated settlement and land use remains in the project vicinity.

The historic use of the project site and vicinity in brief review, European presence in the project vicinity began in 1769 with the Portola expedition. Mission San Gabriel, located approximately 24 miles north-northeast of the project site, was established in 1771, and El Pueblo de La Reina de Los Angeles was established in 1781 approximately 20 miles north-northwest of the project site. During the 1880s, the Ranchos Los Nietos spread across 167,000 acres on the east side of the Los Angeles River. The Rancho Los Alamitos Ranch House built in 1806 is listed on the National Register of Historic Places[26] and is located 5.5 miles east-northeast of the project site. A portion of Ranchos Los Nietos became the Ranchos Los Cerritos and the 'Casa de los Cerritos' a two story Monterey Colonial Style Adobe listed on the National Historic

[20] *Archaeological Site Record, CA-LAN-693. On file at the South Central Coastal Information Center. Department of Anthropology at California State University, Fullerton, California. Update 1974.*

[21] *Johnston, Bernice Eastman. California's Gabrielino Indians. Southwest Museum, Los Angeles. Jones, N. V., and W. J. Wolff (editors). 1962.*

[22] *Ibid.*

[23] *Bean, L. J. and C. R. Smith (1978) Gabrielino. Handbook of North American Indians, Vol. 8, California, edited by R. F. Heizer, pp. 538-549. Smithsonian Institution, Washington, D.C.*

[24] *McCawley, William. The First Angelinos: the Gabrielino Indians of Los Angeles. Malki Museum Press, Morongo Indian Reservation, Banning, California. Page 66. 1996.*

[25] *Sanborn Fire Insurance Map. City of Long Beach, California Exposure Nos. 4, 6, 11, 12, 19, & 20. circa. 1914.*

[26] *National Park Service. National Historic Landmarks Number 81000153. NRHP. July 7, 1981.*

Register was built in 1844 is located approximately 5 miles north-northeast of the project site, along the east side of the Los Angeles River.[27]

According to an 1882 Los Angeles Times article which describes the first hand impressions given by 'excursionists' after visiting the 'American Colony', what would later become known as Willmore City, named after William Willmore an entrepreneur whom made the initial unsuccessful attempt to develop the original town site of Long Beach. "The lands are unsurpassed in Los Angeles Valley for eligibility and soil"; they are cheap at the contracted price of $25 per acre; that 3 flowing artesian wells and others may easily and cheaply provide water along with irrigation from the San Gabriel River; they believe the land will grow fruits and grains equal in quality and quantity to the products of the best lands in said valley; that the 6 miles of beach fronting on the town site of this Colony is unsurpassed on this continent; the proposed town will speedily become a desirable and popular seaside resort as well as a business center for a large area of the country; the town site will at an early day become a railway center."[28] An 1885 Los Angeles Times article describes how residential dwellings and water utilities were being constructed at a steady pace. The author describes Long Beach as a 'delightful resort' already attracting distinguished persons from abroad.[29]

The City of Long Beach was incorporated in 1888. In June of 1902, Congress approved a harbor improvement project that included a proposal for the construction of a 6,360 foot long dike to deflect floodwaters from the Los Angeles River away from the port at San Pedro.[30] Charles R. Drake also facilitated the arrival of the Henry Huntington's Pacific Electric Railway which was opened on July 4, 1902 connecting downtown Los Angeles and Long Beach.[31] In 1903, lots in the Drake Park Historic District were advertised for sale by the Seaside Water Company.[32] According to a 1905 Los Angeles Times article, the largest private real estate transaction in the history of Long Beach was concluded when a number of investors, intent on turning the 'salt flats' into a vast manufacturing district, purchased 800 acres from the Seaside Water Company. These relinquished parcels were described as having been located between the Salt Lake Railroad and Anaheim Road; and the bluff and the Old San Gabriel River (the Los

[27] *National Park Service. National Historic Landmarks Number 70000135. NRHP. April 15, 1970..*

[28] *The Los Angeles Times, 'The Colony.' Section II, Page 2. March 14, 1882.*

[29] *The Los Angeles Times, 'Long Beach.' Page 4. April 3, 1885.*

[30] *The Los Angeles River: It's Life, Death, and Possible Rebirth by Blake Gumprecht. The John Hopkins University Press. Baltimore, Maryland. Page 175. 2001*

[31] *The Los Angeles Times, 'Fight For A Franchise On At Long Beach.' Page 13. August 28, 1901.*

[32] *City of Long Beach Cultural Heritage Commission. History of Drake Park. 2007*

Angeles River).[33] Within these boundaries, the article describes the San Gabriel River, Cerritos Slough, and Little River.[34] In December 1905, the Los Angeles Dock and Terminal Company announced the project plans for a six mile free inner harbor within the City Limits of Long Beach.[35] In 1907, Ocean Boulevard (Ocean Avenue) terminated at Golden Shore Avenue (Golden).[36]

The cyclical and unpredictable flooding of the Los Angeles and San Gabriel Rivers inundated northern and western portions of the City of Long Beach surrounding the uplands and central terrace on all sides. After the particularly large floods during the months of February and April in 1914, which surrounded the City of Long Beach with flood waters, Los Angeles County flood control projects begin in earnest to tame the Los Angeles River.[37] During WWI, the Long Beach Chamber of Commerce petitioned the Secretary of War for war measures to cut a channel at least 250 feet in width, (preferably 750 feet in width), and three-fourths of a mile long from Cerritos Slough to the ocean.[38] A 1917 City of Los Angeles County Flood bond issue came to fruition in 1921 when the returns on WWI bond funding combined with long-planned engineering and design. Once completed, the diversion of the Los Angeles River away from the Harbor through the construction of a new channel which moved the Los Angeles River one mile east with finished dimensions of 566 feet wide and 14 feet deep.[39]

Through the period of World War II, the Federal Government became increasingly involved in the development of the Los Angeles-Long Beach Harbor and Los Angeles River area due to the existing geographic location of the harbor, transportation, and petroleum-related industrial base of the vicinity.[40] The United States Navy became a permanent presence in the City of Long Beach and this historic relationship has served to shape the focus of West End

---

[33] *The Present-Day Los Angeles River, although predominately channelized along its southern reaches, geographically-speaking, follows the historic river channel of the Old San Gabriel River. At times, when the two rivers combined to share a channel to the Pacific Ocean, the lower course retained the San Gabriel title.*

[34] *The Los Angeles Times, 'Sell Tide Flats By Long Beach.' Water Channels May be Dredged Out Sufficiently for the Navigation of Small Freight Craft to Handle Lumber Traffic." Section II, Page 11. January 21, 1905.*

[35] *The Los Angeles Times, 'Long Beach Is Thrilled: Sees Commercial Future in New Harbor Project.' Section II, Page 1. December 14, 1905.*

[36] *The Los Angeles Times, 'Told Along The Strand.' Section II, Page 10. August 17, 1907.*

[37] *The Los Angeles River: It's Life, Death, and Possible Rebirth by Blake Gumprecht. The John Hopkins University Press. Baltimore, Maryland. Page 198. 2001*

[38] *The Los Angeles Times, 'Long Beach Would Solve Flood Peril.' Section II, Page 2. September 6, 1918.*

[39] *The Los Angeles River: It's Life, Death, and Possible Rebirth by Blake Gumprecht. The John Hopkins University Press. Baltimore, Maryland. Page 187. 2001*

[40] *Cultural Resources Report for the Wilmington Waterfront Development Project Draft Environmental Impact Report. Report on file at the South Central Coastal Information Center. Department of Anthropology at California State University, Fullerton, California.*

development for multiple decades. The western portions of the downtown shoreline have undergone extensive development and subsequent redevelopment. The Downtown West Planned Development District Ordinance promoted total recycling of the most deteriorated areas in the West End. According to the Long Beach General Plan, a new high-rise office activity area, a tourist and hotel activity district and new high-rise residential condominiums now characterize the downtown shoreline. [41]

(2) Resources Identified within Project Site

(a) Paleontological Resources

(i) Methods

In order to determine potential presence of paleontological resources on-site, a paleontological resources records search was commissioned through the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County (LACM) on May 13, 2008. The objective of the record search was to determine the geological formations underlying the project site, whether any paleontological localities have previously been identified within the project site or in the same or similar formations near the project site, and the potential for excavations associated with the project site to encounter paleontological resources. The results also provide a basis for assessing the sensitivity of the project site for additional and buried paleontological resources.

(ii) Results

Results of the record search indicate that the surficial sediments of the proposed project site consist of younger Quaternary Alluvium, derived as fluvial deposits from the Los Angeles River that flows immediately to the west. These deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, and the LACM has no vertebrate fossil localities anywhere nearby from such deposits. At depth in this area, however, as well as surficial deposits on the northeastern-most margin of the project site, there are older Quaternary deposits known to be fossiliferous.[42] The closest vertebrate fossil locality from these latter deposits is LACM 6896, directly east of the northern border of the project site near the

[41] *City of Long Beach General Plan. Land Use Element. Downtown. Page 205. 1989. Revised 1990. Reprinted April 1997.*

[42] *Paleontological Records Search for the Proposed Golden Shore Master Plan, in the City of Long Beach, Los Angeles County, Project Area. Prepared by Samuel A. McLeod, Ph.D., Vertebrate Paleontology Section, Natural History Museum of Los Angeles County, August 4, 2008, for PCR Services Corporation, Irvine, CA.*

intersection of Magnolia Avenue and Ocean Boulevard, that produced a fossil whale, *Cetacea*, humerus from pile driving activities at a depth of less than 100 feet.

North to north-northeast of the project site there are localities LACM 1144 and 3550, near the intersections of Loma Vista Drive with Crystal Court and 12th Street with Pine Avenue respectively, that produced fossil specimens of sea lion, *Zalophus*, camel, *Camelops*, and bison, *Bison*, from deposits found at the project site at a depth of less than 48 feet below surface. Also from the same deposits, just south of due east of the project site, at Bixby Park along Ocean Boulevard east of Cherry Avenue, our locality LACM 1005 produced fossil specimens of ground sloth, *Nothrotheriops*, and mammoth, *Mammuthus columbi*. From somewhat similar Quaternary sediments, vertebrate fossil locality LACM 1163, west-northwest of the project site near the intersection of Anaheim Street and Henry Ford Avenue, produced fossil specimens of bison, *Bison*, at a depth of only five feet.

According to the LACM, surface grading or shallow excavations in the project site immediately around the Los Angeles River probably will not uncover any significant vertebrate fossils. Deeper excavations in the project site, however, may well encounter significant vertebrate fossils of Late Pleistocene age, possibly even at shallow depth. Any substantial excavations in the project site, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered. Any fossils recovered during mitigation should be deposited in an accredited and permanent institution for the benefit of current and future generations.[43]

(b) Archaeological Resources

(i) Methods

In order to determine the potential presence of prehistoric and historical-period archaeological resources on-site, a cultural resource records search was conducted through the California Historical Resources Information System South Central Coastal Information Center (CHRIS-SCCIC) at California State University, Fullerton, historical-period maps of the project site and vicinity were analyzed, and project-specific geotechnical information was reviewed.

The CHRIS-SCCIC record search was conducted on July 15, 2008. The objectives of this search were to review previous cultural resource investigations and previously recorded archaeological resources within the project site and a half-mile radius of the project site. The record search also included review of the National Register of Historic Places (NR), California

[43] *Ibid.*

Register of Historical Resources (CR), California Points of Historical Interest (CPHI), California Historical Landmarks (CHL), California State Historic Resources Inventory (HRI), and the listing of the City of Los Angeles Historic-Cultural Monuments register.

Review of historic maps included analysis of Sanborn Fire Insurance maps for the Project site and vicinity. Years for which Sanborn maps for the project site were produced include 1914, 1949, and 1951. In addition, a Phase I Environmental Assessment study for the project site, prepared by Waterstone Environmental Inc., for the 1 Golden Shore Drive, Molina Healthcare Medical Center parcel was reviewed.[44]

(ii) Results

Results of the cultural resource records search indicate that the project site was previously studied for cultural resources in 2007. An additional 10 investigations have been conducted within a half-mile radius. These investigations vary widely in terms of size and scale; none included subsurface investigations. Specifically, 11 previous investigations were area surveys ranging in size from 0.25 acre to 5000 acres.[45] Two previous studies included portions of the project site. Three of the investigations were surveys of the Los Angeles River Flood Control Basin, and the Rio Hondo River Flood Control Basin corridors that range in length from less than one mile up to 21 miles. Four of the investigations were Los Angeles and Long Beach Harbor-related studies of marine basin corridors and Port berths. Two of the investigations were conducted in the reclaimed Shoreline Drive vicinity of the City of Long Beach including the environmental impact report for the Queensway Bay Master Plan and a cultural resources record search conducted for the Downtown Shoreline Ocean Promenade. One of the reports is a telecommunications cell tower location which are commonly less than one-quarter acre in size, and in the urban environment are usually attached to existing structures. The one remaining report is a historic building survey environmental impact report which is a summation of previous cultural resources assessments for the Downtown and Central Long Beach Redevelopment Master Plan. None of these previous investigations identified archaeological resources in the project site or within a half-mile radius.[46]

---

[44] *Waterstone Environmental, Inc. (1999) Phase I Environmental Assessment Report, Subject Property Located at 1 Golden Shore Drive, Long Beach, California 90802*

[45] *Record Search Results Letter for the Golden Shore Master Plan in the City of Long Beach. On file at The South Central Coastal Information Center, Department of Anthropology, California State University, Fullerton. Prepared July 30, 2008, for PCR Services Corporation, Irvine, CA.*

[46] *Record Search Results Letter for the Golden Shore Master Plan in the City of Long Beach. The South Central Coastal Information Center, Department of Anthropology, California State University, Fullerton. Prepared July 30, 2008 for PCR Services Corporation, Irvine, CA.*

The geotechnical analysis section of the Waterstone Environmental Inc. study is limited to the northwestern portion of the project site and included the Molina Healthcare Medical Center parcel only. The Waterstone Environmental study is a partial analysis of the geotechnical characteristics of the northwest portion of the current project site and therefore provides incomplete data as regards to specific sediment deposition or geomorphology of the entire Golden Shore Master Plan project site.[47]

The City of Long Beach General Plan Seismic Safety Element Map identifies the northeast portion of the project site as being located on the coastal margin of a terrace that is underlain by over 15,000 feet of stratified sedimentary rocks of marine origin. The General Plan describes the lithological units and soils of the project site as consisting of predominately granular non-marine terrace deposits overlying Pleistocene granular marine sediments at shallow depth.[48] This deep marine section is composed of interbedded units of sandstone, siltstone and shale. The near surface soils on the terrace consist predominately of cohesionless soils such as sand, silty sand and sandy silt that are generally medium to very dense. Cohesive soils such as clayey silt and silty clay, although less dominant are also present as layers in these surficial deposits.[49]

The western and southern portions of the project site which are nearest to the Los Angeles River Flood Control Basin have been modified extensively by dredging and landfill operations associated with the construction of the flood control channel itself first completed in 1921, and the surrounding Queensway Harbor facilities. According the Seismic Safety Element of the General Plan, this fill area consists of dredged and hydraulic fills, assorted man-made fills, and may contain soils of questionable origin, especially in the ancient marsh areas.[50] The dredged and hydraulic fills are generally composed of fine sands and silts. These areas consist of soils and sediments of unknown provenience and may contain buried prehistoric and historic era archaeological resources even at shallow depths.

Results of the Sanborn Map analysis indicate that there is potential for the project site to preserve historical-period archaeological resources, such as remnant building foundations and associated trash deposits. As early as 1895, Sanborn Maps were produced which include the project site on the Index Map but do not provide specific individual project site parcel exposures. A review of map data by year is as follows:

---

[47] *Waterstone Environmental, Inc. (1999) Phase I Environmental Assessment Report, Subject Property Located at 1 Golden Shore Drive, Long Beach, California 90802*

[48] *City of Long Beach General Plan: Seismic Safety Element Chapter 5.2, Pages 26. 1988.*

[49] *Ibid.*

[50] *City of Long Beach General Plan: Seismic Safety Element Chapter 5.2, Page 24. 1988.*

1914

The earliest available Sanborn Maps with exposures directly covering the project site were prepared in 1914. These maps are the first Sanborn series available which illustrate the project site parcels to the south of West Ocean Boulevard and both east and west of Golden Avenue. According to the Sanborn Map, at this time, the Los Angeles River drains directly into Long Beach Harbor approximately two miles to the west-northwest of the project site. Residential dwellings, surface transportation and light manufacturing uses occupy the area immediately to the west of the project site with the Pacific Ocean shoreline extending uninterrupted to the inlet of the Long Beach Harbor. The Cerritos Slough which begins roughly at East Anaheim and Oregon Avenue running southwesterly is less than one mile to the north of the project site as it follows the western edge of the Long Beach bluffs of Drake Park and drains into the east side of Channel Number Three of the Long Beach Harbor.[51]

The 1914 exposures depict the northern portion of the project site as primarily an area of mixed density residential dwellings with some light manufacturing and commercial development, as shown in Figure IV.C-2 on page IV.C-21. Public open space and surface transportation electric railway right-of-ways are also prominent within the project site. Within the northeast portion of the project site; a City Park is situated in a narrow linear strip along the south side of West Ocean Boulevard and to the south of the San Pedro, Los Angeles & Salt Lake Railroad line. The City Park widens slightly as it reaches Santa Cruz Avenue to the east of the project site.

Santa Cruz Avenue, a narrow electric railway road diverges from West Ocean Boulevard just southwest of Daisy Avenue at Ocean Place. Along the north shoulder of Santa Cruz Avenue and to the south of the City Park linear park is also an Electric Railway Right-of-Way following Santa Cruz Avenue in a southwesterly direction, crossing Neptune Place, Maine Way, Mermaid Place, and an unnamed alley way, proceeding through the project site and terminating at South Golden. Although the Electric Railway Right-of-Way ends at South Golden, Santa Cruz Avenue intersects with South Golden, proceeding due west through the project site, crossing Reider Way, Bonnie Brae Avenue, Carnation Way and Wabash Avenue.

The southeast portion of the project site consists of evenly distributed multi-family residential dwellings, flats, and apartment buildings, which are centered around Mermaid Place. Additional apartment buildings and sparse waterfront commercial developments are situated along the north side of West Seaside Boulevard with an unnamed alley way to the rear/north. The Pacific Ocean is directly adjacent to the south side of West Seaside Boulevard.

[51] *Sanborn Fire Insurance Map. City of Long Beach, California. Exposure Nos. 7, 8, 9, 10, & Index circa. 1914.*

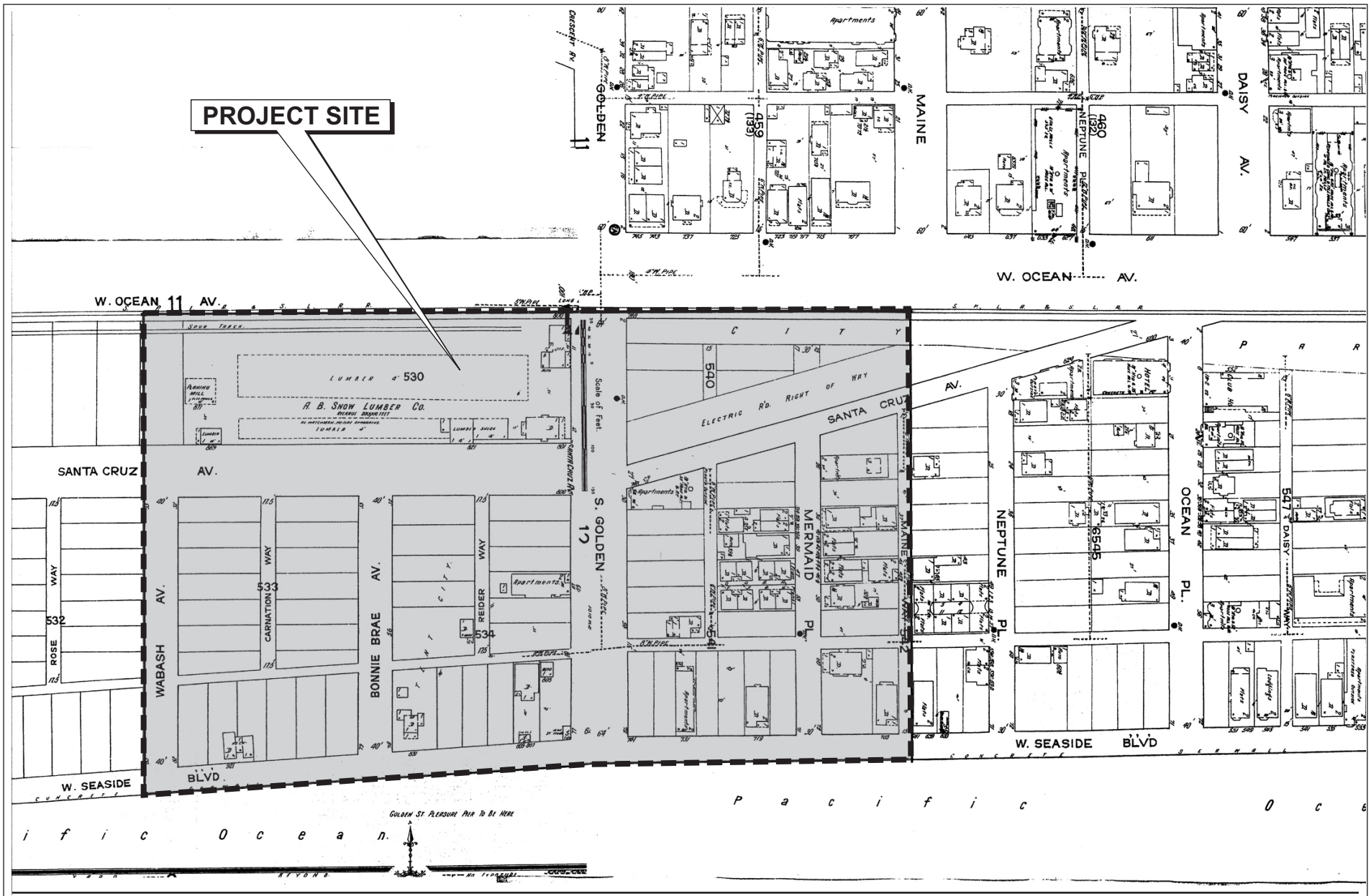


Figure IV.C-2
1914 Sanborn Map

Source: Sanborn Map Company, 1914.

The northwest portion of the project site is utilized as a lumber storage yard and is improved with a dedicated railroad freight spur meeting the San Pedro, Los Angeles & Salt Lake Railroad mainline further to the west at South Morgan Avenue. The large lumber storage yard handles stock averaging 200,000 square feet of lumber. The buildings on this parcel include the offices of A. B. Snow Lumber Company[52] which occupy the southwest corner of West Ocean Boulevard and South Golden and a company owned residential dwelling which occupies the northwest corner of Santa Cruz Avenue and South Golden. The parcel is also improved with temporary structures such as a planning mill and multiple storage sheds owned and operated by the A. B. Snow Lumber Company. Directly south of the A. B. Snow Lumber Company[53] and Santa Cruz Avenue there is a Pacific Ocean waterfront area which includes a Tent City, a sparse mixture of four residential dwellings and one apartment building which occupy the southwest portion of the project site along the north side of West Seaside Boulevard.

1949

The next available Sanborn was prepared in 1949. This map exposure shows the continued mixed-density residential and increased commercial development of the project site and surrounding vicinity, as illustrated in Figure IV.C-3 on page IV.C-23. The mouth of the Los Angeles River Channel has been constructed and channelized by the Los Angeles County Flood Control Authority and is labeled as a County Right-Of-Way, *'720 Feet Wide' – 'Under Construction July 1920',* to the immediate west of the project site.[54] A majority of the buildings within the project site are large multi-story apartments and mixed-density residential dwellings with numerous small and garden-style residential dwellings continuing to the west.

In 1949, A. B. Snow Lumber Company no longer occupies the northwest portion of the project site.[55] There is no indication of any further development on the A. B. Snow Lumber Company parcel which remains vacant open space. However, the vacant parcel is still served by the freight railroad spur. Other significant changes since 1914 include the addition of a Bath

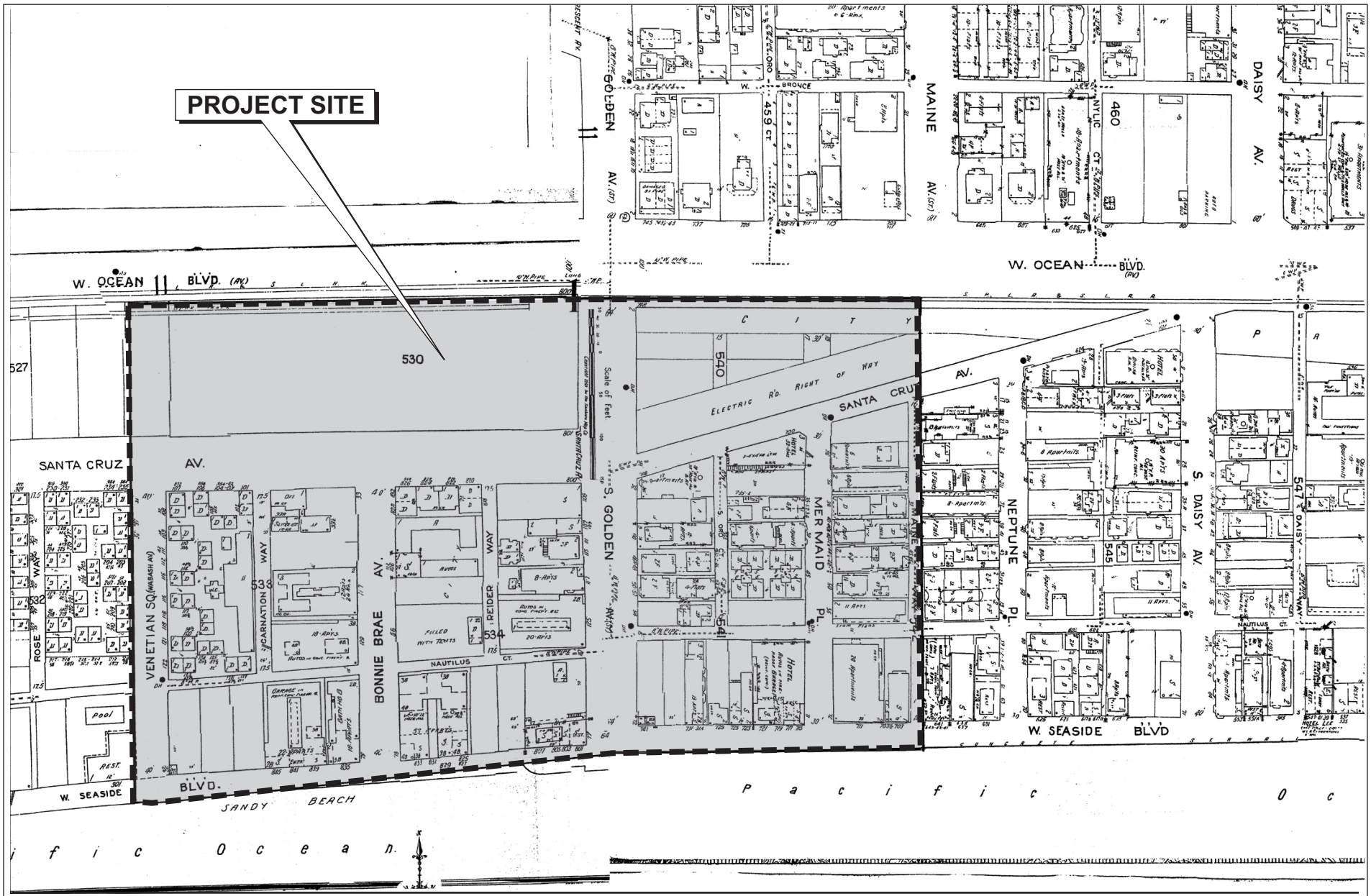
---

[52] *'Snow A Clean Man.' "A. B. Snow…a director of the City National Bank and Manager of the Interstate Lumber Company." A. B. Snow was petitioned for First Ward City of Long Beach Councilman Seat Election 1909. Los Angeles Times. Section II, Page 10. January 2, 1909*

[53] *'Lumber Deal Under X-Ray.' "The agreement, which is signed by all the lumber dealers who form the association alleged by Mayor Windham of Long Beach to be in restraint of trade, shows that the profits are to be divided in following proportion:…A. B. Snow Lumber Company, 11 per cent." Los Angeles Times. Section II, Page 3. January 6, 1912.*

[54] *Sanborn Fire Insurance Map. City of Long Beach, California. Exposure Nos. 4, 6, 11, 12, 19, & 20. circa. 1949.*

[55] *'Two Are Bankrupt.' "The A. B. Snow Lumber Company of Long Beach, filed a petition in bankruptcy in the United States District Court, yesterday. The liabilities of the concern are given as $17,770.46, and the assets as $17,744.98, of which $6531.71 is amounts due on open accounts." Los Angeles Times. Page II2. February 15, 1918.*



PCR

Figure IV.C-3
1949 Sanborn Map

Source: Sanborn Map Company, 1949.

House which occupies the northwest corner of Bonnie Brae Avenue and West Seaside Boulevard. Wabash Avenue has also been renamed and developed as 'Venetian Square'.[56]

In the southeast portion of the project site, a steel-reinforced concrete Hotel occupies the northwest corner of Mermaid Place and West Seaside Boulevard. An additional Hotel is also now located at the northwest corner of Mermaid Place and Santa Cruz Avenue. Nautilus Way is now identified as the alley which remained unnamed in 1914, which following to the rear/north of the buildings along West Seaside Boulevard. The other unnamed alley way between Mermaid and South Golden is now identified as Oro Court. Surface transportation roadways which previously continued to the west of the project site towards Long Beach Harbor in 1914 such as; Santa Cruz Avenue, Nautilus Way, and West Seaside Boulevard exist, but now have Bloomfield Avenue as their western terminus. The Los Angeles County Flood Control Channel Right-Of-Way exists in a north/south orientation directly adjacent and parallel to the west side of Bloomfield Avenue.

1951

According to the 1951 Sanborn map, no structural changes or land alterations occurred to the parcels or buildings described above within the boundaries of the current project area from 1949.[57]

Present-day

Review of the present-day distribution of buildings and existing development within the project site indicates that current surface parking areas, particularly in locations identified in the northwest portion of the project site, may contain buried archaeological resources. Surface parking areas specifically located to the north of the 11 Golden Shore, City National Bank Building and west of the 1 Golden Shore Molina Healthcare Building have been identified as the sections of the parcel occupied by the A. B. Snow Lumber Company which are capped beneath a paved asphalt, surface parking area.

Sections of the parcel occupied by the historic Santa Cruz Park in the northeast portion of the project site persist present-day as an open space plaza landscaped with ornamentals and shade trees surrounded by a raised portico located in the northeast portion of the project site. The location specifically is to the north and east of the 400 Oceangate Union Bank of California Building. Further, review of historical-period Sanborn Fire Insurance maps indicates that the

[56] *Sanborn Fire Insurance Map. City of Long Beach, California. Exposure Nos.4, 6, 11, 12, 19, & 20. circa. 1949.*

[57] *Sanborn Fire Insurance Map City of Long Beach, California. Exposure Nos.4, 6, 11, 12, 19, & 20. circa. 1951.*

northeast portion of the project site may contain buried archaeological resources in the vicinity of Santa Cruz Park along West Ocean Boulevard.

These last two locations, given the lack of subsequent development and capping of the locations with asphalt and landscaping, have potential to retain historical-period foundations and associated deposits of historical-period features or debris dating to as early as the late nineteenth or early twentieth century. Deeper subterranean excavations could potentially encounter both undisturbed or in-situ cultural resources and redeposited or previously disturbed prehistoric-period deposits sealed beneath or within the existing project site fill.

(3) Sacred Lands File Search and Native American Consultation

The Native American Heritage Commission (NAHC) of California was established to provide protection to Native American burials from vandalism and inadvertent destruction, provide a procedure for the notification of most likely descendants regarding the discovery of Native American human remains and associated grove goods, bring legal action to prevent severe and irreparable damage to sacred shrines, ceremonial sites, sanctified cemeteries and place of worship on public property, and maintain an inventory of sacred places.

On July 1, 2008, a Sacred Lands File (SLF) records search was commissioned for the study area through the NAHC. The letter included information such as study area location and a brief description of the proposed project. On July 3, 2008 NAHC responded, "The SLF failed to indicate the presence of Native American cultural resources in the immediate project area." The letter included a list of four Native American groups affiliated with the project vicinity. The NAHC letter can be found in Appendix C of this Draft EIR. On June 12, 2009 letters of inquiry were sent via certified mail to the listed contacts. The letters included a project description and location map and requested information the contacts may have about the potential for the proposed project to affect Native American resources.

3. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Paleontological Resources

To develop a baseline paleontological resources inventory of the project site and surrounding area and to assess the potential paleontological productivity of each stratigraphic unit present, the published and available unpublished geological and paleontological literature was reviewed, as described above; and stratigraphic and paleontologic inventories were

compiled, synthesized, and evaluated by the staff of the LACM. These methods are consistent with the Society of Vertebrate Paleontology (SVP) guidelines for assessing the importance of paleontological resources in areas of potential environmental effect. Due to the extensive development of the project site and lack of visible native ground surface, no paleontological field survey was undertaken.

(2) Archaeological and Native American Resources

PCR staff archaeologists visited the project site to assess existing conditions and to photograph topographic features. During this visit staff archaeologists confirmed the absence of exposed native ground surface in the project site. On this basis, no archaeological field survey was undertaken. The research described above was conducted in order to assess the potential for the project site to contain buried archaeological and Native American resources.

b. Thresholds of Significance

(1) Paleontological Resources

Consistent with the CEQA Guidelines, impacts to paleontological resources would be significant if the proposed project would:

- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature*

(2) Archaeological and Native American Resources

Consistent with the CEQA Guidelines, impacts to archaeological resources would be significant if the proposed project would:

- *Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5*
- *Disturb any human remains, including those interred outside of formal cemeteries*

c. Project Design Features

Implementation of the project would require total modification of the existing project site topography. Average depth of excavation would be between approximately 30 to 40 feet from grade. Nearly the entire project site would be graded during construction excavation. The

project includes plans for the construction of subterranean parking structures and other deep excavations such as for the construction of building footings. The project includes the phased demolition of the existing Molina Healthcare Building, the Union California Bank Building, and the City National Bank Building along with two associated multi-level parking structures.

d. Analysis of Project Impacts

(1) Paleontological Resources

The project site is located on fill material ranging in depth throughout due to the disturbances from previous on-site development. Although the project site has been previously disturbed through grading and/or development, it is likely that the deeper excavations will encounter previously undisturbed native soil/sediment that may contain intact paleontological resources. As a result, there is potential to directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The paleontological records search indicates that excavations into bedrock may result in a high probability of encountering remains of fossil marine vertebrates. Thus, where excavation into bedrock may be required, construction of the project has the potential to result in significant impacts associated with the permanent loss of, or loss of access to, a paleontological resource. Thus, impacts to paleontological resources are considered potentially significant.

(2) Archaeological and Native American Resources

As stated above, the project site has been intensely urbanized and developed for over 90 years. Results of the records search at the CHRIS-SCCIC indicate that no prehistoric archaeological sites were identified in the project site or within a one-half mile radius of the project area. However, significant prehistoric archaeological sites have been identified less than a one mile north of the project site. The identification of CA-LAN-693 in the vicinity of the Willmore/ Drake Park District demonstrates that significant prehistoric archaeological sites have been unearthed in downtown Long Beach in the vicinity of the project site.

The review of historic period maps, tax assessor parcel maps, soil profile maps and the geotechnical report indicates that there are two locations on the project site that could yield historic era archaeological resources. Due to the relative proximity to numerous previously recorded prehistoric cultural resources, the potential for encountering additional buried prehistoric resources within the project site is considered moderate to high. The Sanborn maps of the project area suggest that leveling fill for the project site may have originally been laid down by 1914 or slightly earlier. Therefore, there is a possibility that on-site prehistoric remains have been sealed for over 90 years.

Additionally, given the lack of subsequent development and capping with asphalt and thick landscaping within unpaved areas adjacent to Santa Cruz Park, the northeastern portion of the project site has the potential to retain historical-period foundations and associated deposits of historical-period features or debris dating to as early as the late nineteenth or early twentieth century. Deeper subterranean excavations could potentially encounter both undisturbed or in-situ cultural resources and redeposited or previously disturbed prehistoric-period deposits sealed beneath or within the existing project site fill.

Ethnohistorically identified villages are known to have been in the project vicinity and significant prehistoric archaeological sites have been unearthed in downtown Long Beach in the immediate vicinity of the project site. Therefore, preservation of prehistoric remains in the project vicinity cannot be ruled out.

Based on the above analysis, development of the project has potential to encounter prehistoric and historical-period archaeological deposits. Thus, impacts to archaeological resources are considered potentially significant.

(3) Sacred Lands File Search and Native American Consultation

Results of the Sacred Lands File search failed to indicate Native American resources within or adjacent to the project site. A response to the NAHC-recommended follow-up contact with affiliated Native American groups, however, indicates that the project site vicinity may be sensitive for prehistoric remains. Anthony Morales, Chairperson of the Gabrielino/Tongva San Gabriel Band of Mission Indians, indicated to PCR staff archaeologists that the project site is near to the traditional locations of the village of '*Ahwaanga'* and Native American settlements along the southern coast along the low eastern bluffs of San Pedro Bay and the Los Angeles River, and so is likely to contain remains of associated settlement and land use. Mr. Morales requested that excavations at the project site be monitored for archaeological resources and that the monitoring program include a representative from an affiliated Native American group. Based on consultation with the NAHC, impacts to Native American resources are considered potentially significant.

4. CUMULATIVE IMPACTS

The proposed project and other related projects in the area would be subject to environmental review, at which point the potential for each project site to contain paleontological resources would be determined. Based on the anticipated sensitivity of the site regarding paleontological resources, mitigation measures would be prescribed to address potential fossil resources at each project site, as is the case with the proposed project. With implementation of

mitigation measures for the proposed project and other related projects, as applicable, cumulative impacts to paleontological resources would be reduced to less than significant, and the proposed project's contribution to such impacts would not be cumulatively considerable.

With regard to archaeological and Native American resources, the proposed project and related cumulative development, like all development projects in California, are required to comply with applicable regulations in the event that archaeological and/or Native American resources are found. These regulations include Public Resources Code Section 21083.2 or Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5. Impacts to archaeological resources associated with the proposed project and related projects are considered less than significant given compliance with regulations relating to the handling and treatment of archaeological and Native American resources. With adherence to applicable regulatory requirements, impacts to archaeological and Native American resources from implementation of the proposed project and related cumulative development would be less than significant, and the project's contribution to cumulative impacts would not be considerable.

5. MITIGATION MEASURES

a. Paleontological Resources

The following mitigation measures have been prescribed to reduce potentially significant impacts on paleontological resources:

Mitigation Measure C-1: A qualified paleontologist retained by the Project Applicant and approved by the City shall attend a pre-grade meeting and develop a paleontological monitoring program for excavations into the Fernando Formation. A qualified paleontologist is defined as a paleontologist meeting the criteria established by the Society for Vertebrate Paleontology. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting wet or dry screened sediment samples of promising horizons for smaller fossil remains. The need for and frequency of monitoring inspections shall be based on the rate of excavation and grading activities, the materials being excavated, and if found, the abundance and type of fossils encountered.

Mitigation Measure C-2: If a potential fossil is found, the paleontologist shall be allowed to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation and, if necessary, salvage.

Mitigation Measure C-3: At the paleontologist's discretion and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing.

Mitigation Measure C-4: Any fossils encountered and recovered shall be prepared to the point of identification and catalogued before they are donated to their final repository.

Mitigation Measure C-5: Any fossils collected shall be donated to a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository.

Mitigation Measure C-6: If fossils are found, following the completion of the above tasks, the paleontologist shall prepare a report for review and approval by the City summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted by the Project Applicant to the lead agency, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures.

b. Archaeological and Native American Resources

The following mitigation measures have been prescribed to reduce potentially significant impacts on archaeological and Native American resources:

Mitigation Measure C-7: An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards (the "Archaeologist") shall be retained by the Project Applicant and approved by the City to oversee and carryout the archaeological mitigation measures stipulated in this EIR.

Mitigation Measure C-8: A qualified archaeological monitor shall be selected by the Archaeologist, retained by the Project Applicant, and approved by the City to monitor ground-disturbing activities within the project area. Ground-disturbing activities are here defined as activities that include digging, grubbing, or excavation into sediments (fill or native sediments) that have not been previously disturbed for this project. Ground-disturbing activities do not include movement, redistribution, or compaction of sediments excavated during the project. The Archaeologist shall attend a pre-grade meeting and develop an appropriate monitoring program and schedule. The frequency of monitoring shall be based on the rate of excavation and grading activities, the

materials being excavated, and if found, the abundance and type of resources encountered.

Mitigation Measure C-9: Due to the sensitivity of the project area for Native American resources, a Native American monitor shall also monitor ground-disturbing activities in the project area. Selection of the monitor shall be made by the City and take into account guidance provided by the Native American Heritage Commission with respect to Native American groups identified as having affiliation with the project area.

Mitigation Measure C-10: In the event that cultural resources are unearthed during ground-disturbing activities, the Archaeological or Native American monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated. Work shall be allowed to continue outside of the vicinity of the find.

Mitigation Measure C-11: All cultural resources unearthed by project construction activities shall be evaluated by the Archaeologist. If the Archaeologist determines that the resources may be significant, the Archaeologist will notify the Project Applicant and the City and will develop an appropriate treatment plan for the resources. The Archaeologist shall consult with the Native American monitor or other appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

Mitigation Measure C-12: Treatment plans developed for any unearthed resources shall consider preservation of the resource or resources in place as a preferred option. Feasibility and means of preservation in place shall be determined through consultation between the Archaeologist, the Native American monitor or other appropriate representative, the Project Applicant, and the City. The Project Applicant, in coordination with the Archaeologist, Native American monitor and the City, shall also designate repositories in the event that resources are recovered.

Mitigation Measure C-13: The Archaeologist shall prepare a final report to be reviewed and accepted by the City. The report shall be filed with the Project Applicant, the City, and the California Historic Resources Information System South Central Coastal Information Center. The report shall include a description of resources unearthed, if any, treatment of the resources, and evaluation of the resources with respect to the California Register of Historic Resources and the National Register of Historic Places. The report shall also include all specialists' reports as appendices, if any. If the resources are found to be significant, a separate report including the results of the recovery and evaluation process shall be required. The City shall designate repositories in the event cultural resources are uncovered.

Mitigation Measure C-14: If human remains are encountered unexpectedly during construction excavation and grading activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains. Preservation of the remains in place or project design alternatives shall be considered as possible courses of action by the Project Applicant, the City, and the Most Likely Descendent.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

a. Paleontological Resources

With implementation of the mitigation measures above, potentially significant impacts to paleontological resources would be reduced to a less than significant level.

b. Archaeological and Native American Resources

With implementation of the mitigation measures above, potentially significant impacts to archaeological and Native American resources would be reduced to a less than significant level.

IV. ENVIRONMENTAL IMPACT ANALYSIS
D. GEOLOGY AND SOILS

1. INTRODUCTION

This section of the EIR describes the geologic and soils conditions underlying the project site and provides an analysis of potential impacts associated with geological hazards related to seismic impacts and subsurface conditions. The analysis in this section is based on available information contained in the Long Beach General Plan Safety Element and data provided by the United States Geological Survey (USGS), California Geological Survey (CGS), and other public agencies. Based on the nature of geologic, seismic, and soil-related impacts, the following analysis addresses the overall redevelopment of the project site and does not differentiate between the various project options contemplated by the applicant, as impacts do not measurably vary between these options.

2. ENVIRONMENTAL SETTING

a. Physical Environment

(1) Geologic Setting

The project site is located within the Long Beach Plain in the coastal portion of California's Peninsular Ranges geomorphic province, which extends northwesterly from Baja California into the Los Angeles Basin and westerly into the offshore area, including Santa Catalina, Santa Barbara, San Clemente, and San Nicolas islands. The northern boundary of the province is the Transverse Ranges along the Malibu, Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga faults. The eastern boundary of the province is the Colorado Desert geomorphic province along the San Jacinto fault system. The Peninsular Range is characterized by northwest/southeast trending alignments of mountains and hills and intervening basins, reflecting the influence of northwest trending major faults and folds that control the general geologic structural fabric of the region. The closest fault zone is the Newport-Inglewood fault zone, a northwest-trending structural zone expressed at the surface by a series of discontinuous low hills, located approximately three miles northeast of the project site.

(2) Subsurface Soils

The Seismic Safety Element of the City of Long Beach General Plan indicates that the majority of the project site is characterized by predominantly man-made fill areas consisting of hydraulic-fills, assorted man-made fills, and soils of questionable origin, which are generally composed of fine sand and silt. The small portion of the project site at the northeastern corner along Ocean Boulevard is characterized by predominantly granular non-marine terrace deposits overlying Pleistocene granular marine sediments at shallow depths. According to data obtained from the United States Department of Agriculture's National Cooperative Soil Survey (NCSS), the project site lies within an area characterized by the Urban Land-Hanford-Sorrento (CA638) soil association. The Hanford series consists of very deep well drained soils that formed in moderately coarse textured alluvium predominantly from granite. Hanford soils are typically found on stream bottoms, floodplains, and alluvial fans and have slopes of 0 to 15 percent. The Sorrento series consists of very deep, well drained soils that formed in alluvium mostly from sedimentary rocks. Sorrento soils are on alluvial fans and stabilized floodplains and have slopes of 0 to 15 percent.

(3) Groundwater

(a) Groundwater Hydrology

Based on the Geologic Map of California, published in 1977 by the California Geological Survey (formerly the California Division of Mines and Geology), the project site is located within the coastal plain of Los Angeles County which consists of alluvium, lake playa, terrace deposits, unconsolidated and semi-consolidated materials. The project site is located in a subsection of the coastal plain designated as the Long Beach Plain.

Based on the State of California Bulletin No. 104 (Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County) dated June 1961, the project site is located within the West Coast Basin. The basin consists of recent alluvium that forms the semi-perched aquifer, the Bellflower aquitard, and the Gage aquifer. Regional groundwater beneath the project site is believed to be affected by seawater intrusion. A shallow perched water-bearing zone is encountered from depths of 10 to 20 feet below ground surface (bgs). The first regional occurring aquifer beneath the site is the Gage aquifer, which occurs at an approximate depth of 100 feet bgs in the vicinity. Shallow groundwater flow is generally towards the Long Beach/Los Angles Harbor and Los Angels River to the south/southwest.

Natural recharge of the shallow and semi-perched aquifers by percolation from the ground surface occurs throughout the Los Angeles Coastal Plain and by underflow from the recharge areas. However, such natural recharge has steadily decreased regionally as a result of

urbanization and industrialization over the years, as well as channeling of the Los Angeles and San Gabriel Rivers. Artificial recharge programs have been developed to compensate for the loss of natural recharge areas and the heavy use of groundwater.

(b) Groundwater Quality

The general quality of groundwater within the Los Angeles Coastal Plain has been substantially degraded from background levels. The groundwater in the surrounding area has experienced seawater intrusion, which is currently under control in most areas. Groundwater in the lower aquifers of this basin is generally of good quality. However, the quality of groundwater in parts of the upper aquifers is degraded by organic and inorganic pollutants from a variety of sources, such as leaking tanks, leaking sewer lines, and illegal discharges.[1]

(4) Seismicity and Earthquake Faults

The project site is located within the seismically active region of southern California. There are numerous active, potentially active, and inactive faults located throughout the southern California region. Based on criteria developed by the California Geological Survey (formerly the California Division of Mines and Geology) faults are categorized as active, potentially active, or inactive. Active faults are those that show evidence of surface displacement within the last 11,000 years. Potentially active faults are those that have demonstrated surface displacement within the last 1.6 million years while inactive faults have not moved in the last 1.6 million years. A list of faults in the region and associated fault parameters are included in Table IV.D-1 on page IV.D-4, and the locations of fault zones are illustrated in Figure IV.D-1 on page IV.D-5. The following describes the two major known faults in the project area:[2]

(a) Newport-Inglewood Fault Zone

The Newport-Inglewood Fault Zone is a right-lateral wrench fault system consisting of a series of fault segments and folds. This zone is visible on the surface as a series of northwest trending elongated hills extending from Newport Beach to Beverly Hills, including Signal and Dominquez Hills. Topographic highs along the zone are surface expressions of individual

---

[1] *Waterstone Environmental, Inc. Phase I Environmental Assessment Report, Subject Property Located at 1 Golden Shore Drive, Long Beach, California, 90802. June 30, 1999.*

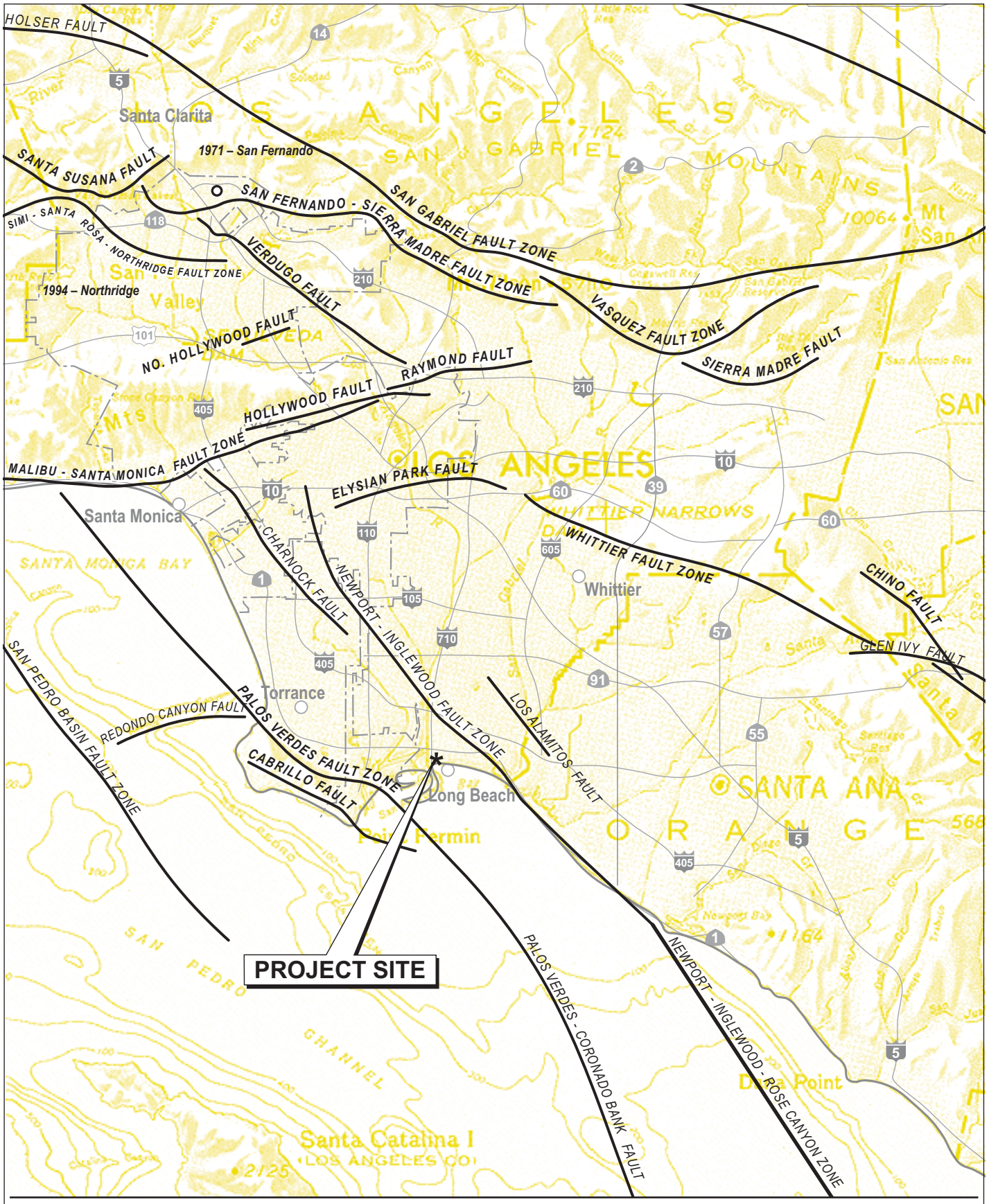
[2] *City of Long Beach. City of Long Beach General Plan Seismic Safety Element. October 1988.*

Table IV.D-1

Characteristics and Estimated Maximum Earthquakes for Faults Considered for the City of Long Beach

Fault Name	Fault Classification	Approximate Distance from City Miles (km)	Approximate Fault Length Miles (km)	Estimated Slip Rate mm/yr	Estimated Maximum Earthquake
Newport-Inglewood Fault Zone	Right Lateral	0-3 (0-5)	44 (70)	0.5	7.0
Palos Verdes	Right Lateral-Reverse	4.5 (7)	50 (80)	0.8	7.0
Santa Monica-Malibu Coast Fault Zone					
Santa Monica	Reverse Left Lateral	23 (38)	35 (56)	0.4	7.0
Hollywood	Reverse Left Lateral	24 (39)	11 (18)	0.4	7.0
Malibu Coast	Reverse Left Lateral	26 (42)	34 (54)	0.1	7.0
Anacapa-Dume	Reverse Left Lateral	28 (45)	50 (80)	0.4	7.0
Raymond	Reverse Left Lateral	24 (39)	14 (22)	0.2	6.8
Verdugo	Reverse Right Lateral	25 (40)	19 (30)	0.1	6.8
Sierra Madre Fault System					
Sierra Madre Segment	Reverse Left Lateral	28 (46)	11 (18)	2	7.0
Duarte Segment	Reverse Left Lateral	29 (47)	10 (16)	3	7.0
Dunsmore Segment	Reverse Left Lateral	31 (50)	9 (15)	3	7.0
San Andreas (South Central)	Right Lateral	50 (80)	196 (314)	36	8.5
San Jacinto	Right Lateral	50 (80)	160 (256)	8	7.5
Elsinore	Right Lateral	27 (43)	137 (219)	4	7.3
Whittier	Right Lateral-Reverse	19 (30)	28 (45)	1.2	7.0
Elyslan Park-Montebello Zone of Deformation	Reverse	19 (30)	13 (20)	0.4	6.5
Catalina Escarpment	Right Lateral	37 (60)	60 (96)	0.8	7.0
San Pedro Basin	Right Lateral	20 (32)	28 (45)	0.5	7.0
San Clemente Escarpment	Right Lateral	48 (77)	150 (240)	0.8	7.0

Source: City of Long Beach, General Plan Seismic Safety Element, 1988



Source: U.S.G.S 1999 Data 1994 Fault Activity DMG Open-File Report by C. Jennings; PCR Services Corporation, 2005.

Figure IV.D-1
Regional Fault Map

faulted anticlinal structures, and these faults and folds act as groundwater barriers and, at greater depths, form petroleum traps.

Detailed studies along the fault zone show it to exhibit right lateral displacement of up to 6,000 feet since mid-Pliocene time, with a maximum displacement of up to 10,000 feet since late Miocene time. Vertical displacement has also occurred along the zone and appears to be primarily due to the associated folding. The average long term horizontal slip rates appear to have been a relatively consistent 0.5 millimeters per year. An estimated maximum earthquake of magnitude 7.0 has been assigned to the zone on the basis of its estimated rupture length and its slip rate. Active or potentially active faults of the Newport-Inglewood Fault Zone within the boundaries of Long Beach include the Cherry Hill Fault, the Northeast Flank Fault, and the Reservoir Hill Fault. A possible fault may exist in the area of the marine stadium. A topographic scarp suggestive of faulting exists along the western end of the marine stadium, roughly paralleling the old Pacific Electric right-of-way.

Subsurface movement on the Newport-Inglewood Zone produced the 1933 Long Beach (magnitude 6.3) Earthquake that caused severe damage in the City of Long Beach; and the 1920 Inglewood Earthquake (estimated magnitude 4.9) , that resulted in notable damage in the City of Inglewood. Ground breakage has not been observed along the faults of the Newport-Inglewood Zone in historic times within the City of Long Beach. However, the existence of the well defined fault scarps is suggestive of ground breakage in recent geologic time (i.e., within the last 10,000 years).

Since enactment of the Alquist-Priolo studies Zones Act in 1972, about 70 geologic reports have been prepared covering properties within the zones in the city of Long Beach. The purpose of these reports was to investigate for possible faults on the property and if found, determine whether or not the fault represented a potential surface rupture hazard to the proposed buildings. Several branches of the Newport-Inglewood Fault Zone have been examined by subsurface trenching and have showed evidence of recent (Holocene) displacement. Other fault traces that have been investigated were reported by various authors to not cut sediments of Holocene age or older. The City of Long Beach has an active program of reviewing the Special Studies Zones geologic reports.

(b) Palos Verdes Fault Zone

The Palos Verdes Fault lies immediately offshore of the City of Long Beach and is one of several major northwest trending faults in southern California that are tectonically associated with the northwest trending San Andreas Fault System. As shown in Plate 1, most of the mapped length of the Palos Verdes Fault is offshore of southern California extending northwestward from Lasuen Knoll into San Pedro Bay, through Los Angeles Harbor, across the northern front of

the Palos Verdes Hills, and into Santa Monica Bay. In Santa Monica Bay, the fault appears to bend to the west down Redondo Canyon.

The onshore segment of the Palos Verdes Fault has apparently uplifted Palos Verdes Hills over 1,350 feet (410 meters) since the middle Pleistocene. Extensive deformation and folding of late Pleistocene and Holocene age sediments onshore, along the northern edge of the Palos Verdes Hills, would also indicate that compression across the Palos Verdes Fault has been active in the Holocene.

Several marine geophysical surveys have been run in Los Angeles Harbor and offshore of Long Beach. These surveys have found evidence of warping in Holocene sediments near San Pedro and evidence of faulting of the sea floor southward along the Palos Verdes Fault trace. The Palos Verdes Fault is in the same tectonic environment and is nearly parallel in orientation to other active faults, such as the Newport-Inglewood, Elsinore, and San Andreas fault zones. An estimated maximum earthquake of magnitude 7.0 has been assigned to this fault based on comparisons with the Newport-Inglewood Fault Zone. Other fault and earthquake parameters estimated for the Palos Verdes Fault are presented in Table IV.D-1 above.

(5) Other Seismic Conditions

Hazards associated with seismic activity other than faulting and ground shaking include the following:

Liquefaction and Seismic Settlement. Liquefaction is a phenomenon in which the structure of saturated soil collapses during strong ground shaking of considerable duration, causing water pressure in the soil to rise sufficiently to make the soil behave like a fluid for a short period of time. As a result, the soil temporarily loses considerable strength and capacity. Liquefaction generally occurs when three conditions exist: shallow groundwater; low density, fine, clean sandy soils; and high density ground motion. The effects of liquefaction on level ground include settlement and bearing capacity failures below structural foundations. According to the California Geological Survey (CGS)'s Seismic Hazard Zones Map for the Long Beach Quadrangle, roughly half of the project site (i.e., the southern half of the site) is located within an area susceptible to liquefaction, thus requiring remedial measures as defined in California Public Resources Code (PRC) Section 2693(c) to address liquefaction-related risks.

Lateral Spreading. Seismically induced lateral spreading is caused by the lateral movement of earth materials due to ground shaking. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. Due to the types of soils on-site, and the fact that the site is currently developed with urban uses, the potential for lateral spreading is low.

Subsidence. The extraction of groundwater or oil from sedimentary source rocks can cause the permanent collapse of pore space that was previously occupied by the removed fluid. The compaction of subsurface sediments resulting from fluid withdrawal could cause the ground surface overlying the fluid reservoir to subside. If sufficiently great, the subsidence can significantly damage nearby engineered structures.

Large scale subsidence, mostly related to petroleum production from the Wilmington Oil Field, has taken place in the Long Beach Harbor area. Nearly 30 feet of subsidence has occurred at the center of the basin near the Navy dry dock on Terminal Island. Elevation changes of 6 feet or more are primarily confined to the harbor area. Small amounts of regional subsidence had been detected in the Long Beach-Wilmington area at various times prior to 1940, but little attention was given because the amount was very small. The deepest part of the subsidence bowl sank about 29 feet between 1926 and 1968. However, a noticeable amount of subsidence did not occur until after the major oil field development began in 1939.

Pilot water flooding was initiated in 1953, and full scale injection began in 1958. Extensive repressurization of the reservoir through water injection has stabilized the area, which along with substantial remedial landfill operations, has allowed continued use of port, petroleum production, and commercial facilities. As much as 1 to 1.5 feet of elevation rise has been experienced through rebound in some areas. However, it is estimated that this rebound and possibly more may be subject to rapid subsidence if reservoir pressures are allowed to drop through cessation of injection. The project site experienced subsidence of between 5 to 8 feet as a result of historic oil extraction activities, but as previously indicated, no further subsidence is expected due to cessation of large-scale oil extraction at the Wilmington Oil Field and repressurization of the reservoir.

Seiche and Tsunami. A seiche is the oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, storage tank, or lake, in response to earthquake activity. The project site is located in proximity to, and upgradient from, the Long Beach Harbor and associated water bodies near the mouth of the Los Angeles River. Despite the potential for limited seiche effects to occur in these water bodies during a large seismic event, it is not expected that the project site would experience flooding in that event given the elevation of the site relative to the harbor and distance to the affected water bodies.

A tsunami is a series of waves of extremely long wavelength (distance between two sucessional waves) and long period (time between two sucessional waves). A tsunami can be generated by any disturbance that displaces a large water mass from its equilibrium position and can be associated with earthquakes, landslides, volcanic eruptions, and nuclear explosions. Tsunamis are typically caused by large shallow earthquakes when tectonic displacement of the sea floor occurs and the overlying water is displaced from its equilibrium position. The project

site is located along the coastline of the Pacific Ocean and therefore could experience tsunami effects, but the presence of the harbor breakwater, intervening urban development.

Seismically Induced Flooding. Seismically induced flooding occurs when water retention structures or facilities (such as dams or above-ground detention facilities) fail, allowing water to flow downstream unabated at higher-than-normal volumes. The project site is located within close proximity to levees associated with the Los Angeles River channel to the west of the project site. There are no other water retention structures or facilities in proximity to the site. However, as discussed in Section IV.E, Hydrology and Water Quality, of the EIR, the potential for failure of these levees is considered low given the ongoing inspection and maintenance of the structures by the United States Army Corps of Engineers.

b. Regulatory Environment

(1) State of California

(a) Alquist-Priolo Earthquake Fault Zones

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 established the Alquist-Priolo Earthquake Fault Zones in order to mitigate the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Act (PRC Section 2621) was passed in response to the 1971 San Fernando Earthquake, which caused extensive surface fault ruptures that damaged homes, commercial buildings, and other structures. The primary purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent the construction of buildings for human occupancy on the surface trace of active faults, to provide the citizens with increased safety, and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings against ground shaking (PRC Section 2621.5).

Under the Alquist-Priolo Act, the State Geologist is required to establish regulatory zones, known as Earthquake Fault Zones, around the surface traces of active faults and to issue appropriate maps to assist cities and counties in planning, zoning, and building regulation functions. Maps are distributed to all affected cities and counties for the controlling of new or renewed construction and are required to sufficiently define potential surface rupture or fault creep. The State Geologist is also required to continually review new geologic and seismic data, revise existing zones, and delineate additional earthquake fault zones when warranted by new information.

Local agencies are required to enforce the Alquist-Priolo Act in the development permit process, where applicable, and may impose greater restrictions than State law requirements. In addition, according to the Alquist-Priolo Act, prior to the approval of projects, cities and counties

are required to conduct a geologic investigation of the project site by a licensed geologist, demonstrating that buildings will not be constructed across active faults. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back a minimum of 50 feet although setback distances may vary. The Alquist-Priolo Act and its regulations are presented in California Division of Mines and Geology (CDMG, now the California Geological Survey)'s Special Publication (SP) 42.

Although Alquist-Priolo Earthquake Fault Zones have been designated on established fault systems in the Los Angeles Basin, the State has not specifically classified more recently identified active fault systems, including sections of the Hollywood Fault. However, State law allows for local jurisdictions to identify active faults and to impose appropriate building restrictions, consistent with the objectives of the Alquist-Priolo Act.

(b) Seismic Hazards Mapping Act

The State of California Seismic Hazards Mapping Act of 1990 (PRC Section 2690-2699) addresses the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events. Under this Act, the State Geologist is required to delineate "seismic hazard zones." Cities and counties are required to regulate certain development projects within the zones, investigate the geologic and soil conditions of the project, and incorporate appropriate mitigation measures, if any, into development plans. Additional regulations and policies provided by the State Mining and Geology Board assist municipalities in preparing the Safety Element of their General Plan and encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety.

Under PRC Section 2697, cities and counties shall require a geotechnical report defining and delineating any seismic hazard prior to the approval of a project located in a seismic hazard zone. Each city or county shall submit one copy of each geotechnical report, including mitigation measures, to the State Geologist within 30 days of its approval. In addition, under PRC Section 2698, cities and counties are not prohibited from establishing policies and criteria which are more stringent than those established by the Mines and Geology Board.

State publications supporting the requirements of the Seismic Hazards Mapping Act include the CDMG SP 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California" and CDMG SP 118, "Recommended Criteria for Delineating Seismic Hazard Zones in California." SP 117 objectives include the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations and to promote uniform and effective Statewide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. SP 118 implements the requirements of the Seismic Hazards Mapping Act in the production of Probabilistic Seismic Hazard Maps for the State and also establishes

criteria for the determination of landslide hazard zones and liquefaction hazard zones. Seismic evaluation and hazard maps have been prepared for the Newport-Inglewood Fault system, Palos Verdes Fault, Raymond Fault, Santa Monica Fault system, Sierra Madre Fault system (San Fernando Fault), and the Los Angeles Blind Thrust Faults, including the Compton, Elysian Park, Northridge, and Puente Hills Faults.

(2) City of Long Beach

Building and construction within the City of Long Beach are subject to the regulations of the City of Long Beach Municipal Code. Municipal Code Chapter 18.24, Building Codes, adopts and incorporates by reference the California Building Code, Volumes I and II, 2001 edition. This Municipal Code chapter includes amendments and modifications to the California Building Code that are specific to the City of Long Beach. The California Building Code in turn incorporates provisions of the Uniform Building Code (UBC), which contains seismic design criteria and grading standards.

The City of Long Beach adopted the Seismic Safety Element of the General Plan in October 1988. The purpose of this element is to provide a comprehensive analysis of seismic factors in order to reduce the loss of life, injuries, damage to property, and social and economic impacts resulting from future earthquakes. The Seismic Safety Element contains goals and recommendations that provide guidance for development in seismically active areas. Specifically, the Element contains goals such as: (1) reducing public exposure to seismic risks; (2) providing an urban environment which is as safe as possible from seismic risk; and (3) providing the maximum feasible level of seismic safety protection services.[3]

3. ENVIRONMENTAL IMPACTS

a. Methodology

Project impacts are determined based on potential risks associated with seismic activity and soil conditions, which are site- and project-specific. Impacts are determined based on the proposed project's ability to protect people and structures from geologic risks in light of existing physical conditions in the project area. Compliance with applicable seismic safety and building codes generally preclude the potential for adverse impacts. As indicated in the Initial Study prepared for the proposed project, impacts related to surface fault rupture, landslides, expansive

[3] *City of Long Beach, Seismic Safety Element, City of Long Beach General Plan, October 1988.*

soils, and soil suitability for septic systems were determined to be less than significant and therefore are not analyzed in this section.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to geology, soils, and seismicity. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of an earthquake fault (refer to Section VII, *Other Environmental Considerations*, in the EIR);
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction; or
    - Landslides (refer to Section VII, *Other Environmental Considerations,* in the EIR);
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil creating substantial risks to life or property (refer to Section VII, *Other Environmental Considerations*, in the EIR); and
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (refer to Section VII, *Other Environmental Considerations*, in the EIR).

c. Analysis of Project Impacts

The project site is located within the seismically active region of southern California and would be subject to ground motion from occasional earthquakes. As stated above, the project could be susceptible to seismic disturbances and secondary effects caused by a rupture of a nearby earthquake fault and strong seismic ground shaking.

(1) Seismic Ground Shaking

Groundshaking accompanying earthquakes on nearby faults is anticipated to be felt on the project site. The greatest amount of groundshaking at the project site would be expected to accompany large earthquakes on any of the regional faults listed in Table IV.D-1. Groundshaking hazards are common throughout southern California and the proposed project would pose no greater risk to public safety or destruction of property by exposing people, property, or infrastructure to seismic hazards than already exists for the region.

Despite the fact that the project site would experience groundshaking as a result of an earthquake along any of the active or potentially active faults in the region, as is the case in all of southern California, the proposed structures would be required to be designed, engineered, and constructed to meet all applicable local and state seismic safety requirements, including the Uniform Building Code and the City of Long Beach Municipal Code. Given compliance with applicable seismic safety requirements, impacts on the proposed development from seismic groundshaking would be less than significant.

(2) Subsidence, Liquefaction, and Collapse

Based on subsurface data obtained from the exploratory borings drilled on- and off-site, the on-site alluvial soils are, for the most part, dense to very dense, and therefore not prone to seismically induced settlement. Nonetheless, compliance with applicable building codes, including the Uniform Building Code and Title 18, Buildings and Construction, of the City of Long Beach Municipal Code, would preclude the potential for adverse structural impacts from liquefaction or other ground failure. Incorporation of such recommendations into the project design and construction, included as mitigation, would reduce impacts from ground failure to less than significant.

Also, because significant quantities of water or oil are not being extracted beneath or in close proximity to the project site, subsidence is not anticipated to pose a significant hazard to the proposed project, barring such extractions in the future. Although construction-related and ongoing groundwater extraction (dewatering) may be required for the proposed structure, such

dewatering would not result in the extraction of substantial quantities of water such that subsidence could occur. The proposed dewatering would be subject to issuance of a dewatering permit from the Los Angeles Regional Water Quality Control Board. Adherence to the requirements of the dewatering permit would ensure that groundwater extraction on-site would not result in adverse impacts related to lowering of the groundwater table in the project vicinity, such that notable subsidence could occur. Therefore, impacts related to subsidence would be less than significant.

Given the local geologic conditions and proposed layout for the proposed structure, no portion of the proposed project would overlie a transition between Holocene age alluvium and older alluvium or bedrock. Therefore, the likelihood of lurching affecting the project site is considered low. Thus, impacts are concluded to be less than significant in this regard.

Because the potential for liquefaction within project site is unlikely due to the lack of liquefiable soil materials, the likelihood of lateral spreading is remote. Thus, impacts related to lateral spreading are concluded to be less than significant.

(3) Soil Erosion/Loss of Topsoil

Soil erosion is most prevalent in unconsolidated alluvium and surficial soils, which are prone to downcutting, sheetflow, and slumping and bank failure during and after heavy rainstorms. To meet the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, the proposed project would be required to implement a Stormwater Pollution Prevention Plan (SWPPP) during construction activities to prevent the introduction of pollutants, including soil materials, into stormwater flows off-site. Per City requirements, the proposed project would implement a project-specific Stormwater Pollution Prevention Plan to prevent substantial erosion and/or sedimentation during storm events during construction. Additionally, to meet the water quality requirements of the County's Standard Urban Stormwater Mitigation Plan (SUSMP), under the NPDES Municipal Separate Storm Sewer System (MS4) Permit, the proposed project would also be required to prepare and implement an operational Water Quality Management Plan (WQMP) to address pollutants following construction activities. Implementation of the approved Water Quality Management Plan would minimize impacts related to erosion and other water quality impacts during project operation. Refer to Section IV.E, Hydrology and Water Quality, for a more detailed discussion of impacts related to erosion and water quality. Additionally, given that the project site is essentially flat and does not possess site conditions conducive to erosion, the potential for soil erosion during operations is nil. Thus, impacts are concluded to be less than significant in this regard.

4. CUMULATIVE IMPACTS

The proposed project would not result in significant unavoidable impacts related to geology, soils, or seismicity, with implementation of applicable mitigation measures. Furthermore, geology, soils, or seismicity impacts are site-specific and each development site is subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the locality and/or region. Because the development of each cumulative project site would have to be consistent with City of Long Beach design and construction requirements and the Uniform Building Code, as each pertains to protection against known geologic hazards, and given the known geologic conditions, impacts of cumulative development would be less than significant.

5. MITIGATION MEASURES

Compliance with applicable regulations, including state and local building and seismic safety codes, would reduce potential geology and soils-related risks to an acceptable level, and impacts would be less than significant. As such, no mitigation measures are required.

6. SIGNIFICANCE AFTER MITIGATION

Impacts related to geology, soils, or seismicity resulting from implementation of the proposed Golden Shore Master Plan project are considered less than significant. As such, no significant impacts would result from project implementation.

IV. ENVIRONMENTAL IMPACT ANALYSIS
E. HYDROLOGY AND WATER QUALITY

This section addresses surface hydrology and water quality, as well as groundwater resources in the project area. The analysis presented in this section is based on information contained in a site-specific Phase I Environmental Site Assessment (ESA) prepared by Waterstone Environmental, Inc. in June 1999, and information provided by various public agencies, including the Federal Emergency Management Agency (FEMA), California Department of Water Resources (DWR), Los Angeles Regional Water Quality Control Board (RWQCB), California Geological Survey (CGS), County of Los Angeles, and City of Long Beach. Based on the nature of hydrology and water quality impacts, the following analysis addresses the overall redevelopment of the project site and does not differentiate between the various project options contemplated by the applicant, as impacts do not measurably vary between these options.

1. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Surface Water Resources

(a) Hydrology and Drainage

The project site is located in an area characterized by flat and gently rolling topography, which generally slopes toward the south to Long Beach Harbor. The site is predominantly commercial in nature, with impervious surfaces constituting much of the site. Existing impervious surfaces include buildings, internal streets, and parking areas. Pervious surfaces consist of landscaped areas primarily located on the northern, eastern, and southwestern perimeters of the site. There are no water bodies located on the project site. The area surrounding the project site contains a mix of uses including commercial office and retail uses, which consist largely of impervious surfaces, Santa Cruz Park as well as a recreational vehicle park consisting of mostly pervious surfaces. Landscaped areas and open space associated with Santa Cruz Park and Cesar E. Chavez Park, and large landscaped medians and greenbelts along local roadways and are the only contiguous areas of predominantly pervious surfaces in the project vicinity.

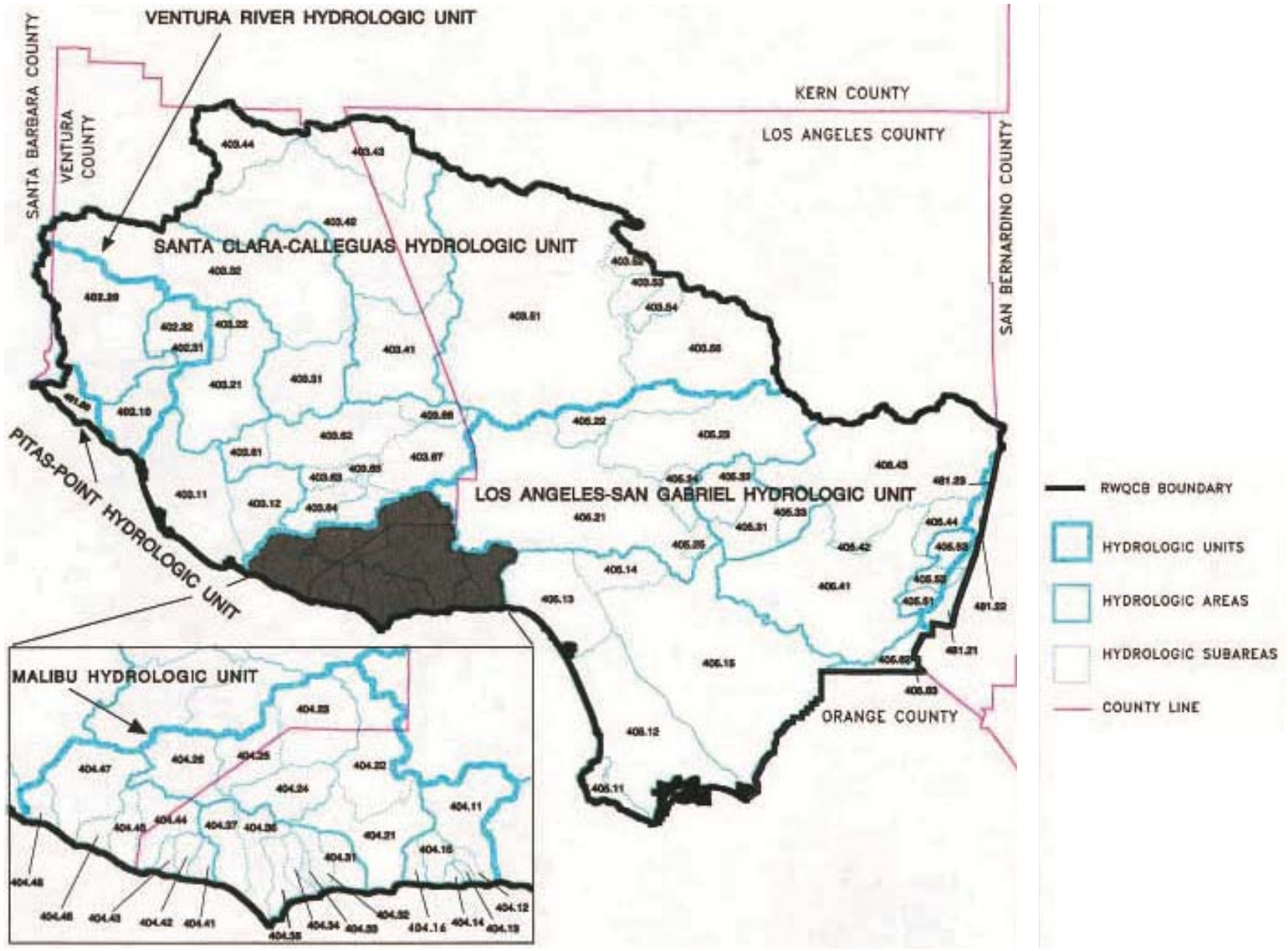
As illustrated in Figure IV.E-1 on page IV.E-3, the project site is located within the Los Angeles-San Gabriel Hydrologic Unit, as determined by the California Regional Water Quality Control Board (RWQCB) for planning purposes. This hydrologic unit covers most of Los Angeles County and drains a 1,608-square mile area. The Los Angeles River, San Gabriel River, and Ballona Creek are the major drainage systems in this area. The Los Angeles River is located just west of the project site across Shoreline Drive, and San Gabriel River is located approximately six miles east from the project site. Both rivers run in a north-south direction and drain into the Pacific Ocean.

There are no surface water bodies or wetlands located on the project site. The primary surface water bodies in the vicinity are the Los Angeles River, as indicated previously, Queensway Bay, Long Beach Harbor, and the Pacific Ocean. Although several of these surface water bodies have been engineered and dredged substantially, portions of them are included in the U.S. Department of the Interior Fish and Wildlife Service (DOI-FWS) National Wetlands Inventory.

The average annual precipitation on the project site is 12 inches. A 50 year, 24-hour storm event yields approximately 6.5 inches of rainfall and a 10-year, 24-hour storm event yields approximately 5.8 inches.[1] Most of the surface runoff from the project site is generated on-site, with almost no surface flow entering the site from other areas. On-site runoff flows from at-grade surfaces to storm drains or from the roofs of the existing buildings through roof down-drains that connect to the storm drain system. Off-site drainage from land uses north and east of the project site enters the on-site storm drain system at the project boundary at Ocean Boulevard and Golden Shore.

All surface runoff generated at the project site is conveyed through on-site drainage systems to one of two City-operated storm drains or to a storm drain operated by the Los Angeles County Flood Control District (LACFCD). The first City-owned storm drain is a 51-inch diameter reinforced concrete pipe located under Golden Shore (Conveyance ID # 030205 in the City of Long Beach Stormwater Master Plan) that receives flows from the west portion of the project site, the point of discharge for which is located south of the site at Golden Shore and Shoreline Drive, where it connects to a 78-inch diameter reinforced concrete pipe operated and maintained by the LACFCD. The second City-owned storm drain is a 57-inch diameter reinforced concrete pipe located under Seaside Way (Conveyance ID # 030110) that receives flows from the east portion of the project site, the point of discharge for which is the same discharge point as the storm drain in Golden Shore at the LACFCD storm drain. The 78-inch diameter LACFCD-owned storm drain (Conveyance ID # 030105) is located under Shoreline Drive, and connects to a County-operated pump station located adjacent to the Los Angeles

[1] *Los Angeles County Department of Public Works.* Hydrology Manual. *December 1991.*



PCR

N

0 10 20 Miles

Figure IV.E-1
Regional Hydrologic Map

Source: Los Angeles Regional Water Quality Control Board, 1994.

River (Pump Station LA01). As such, all stormwater flows from the east and west portions of the project site flow through the City storm drains under Golden Shore and Seaside Way to the County storm drain passing under Shoreline Drive, which is then conveyed to Pump Station LA01 and discharged to the Los Angeles River. The location of the City and County storm drainage facilities are illustrated in Figure IV.E-2 on page IV.E-5.

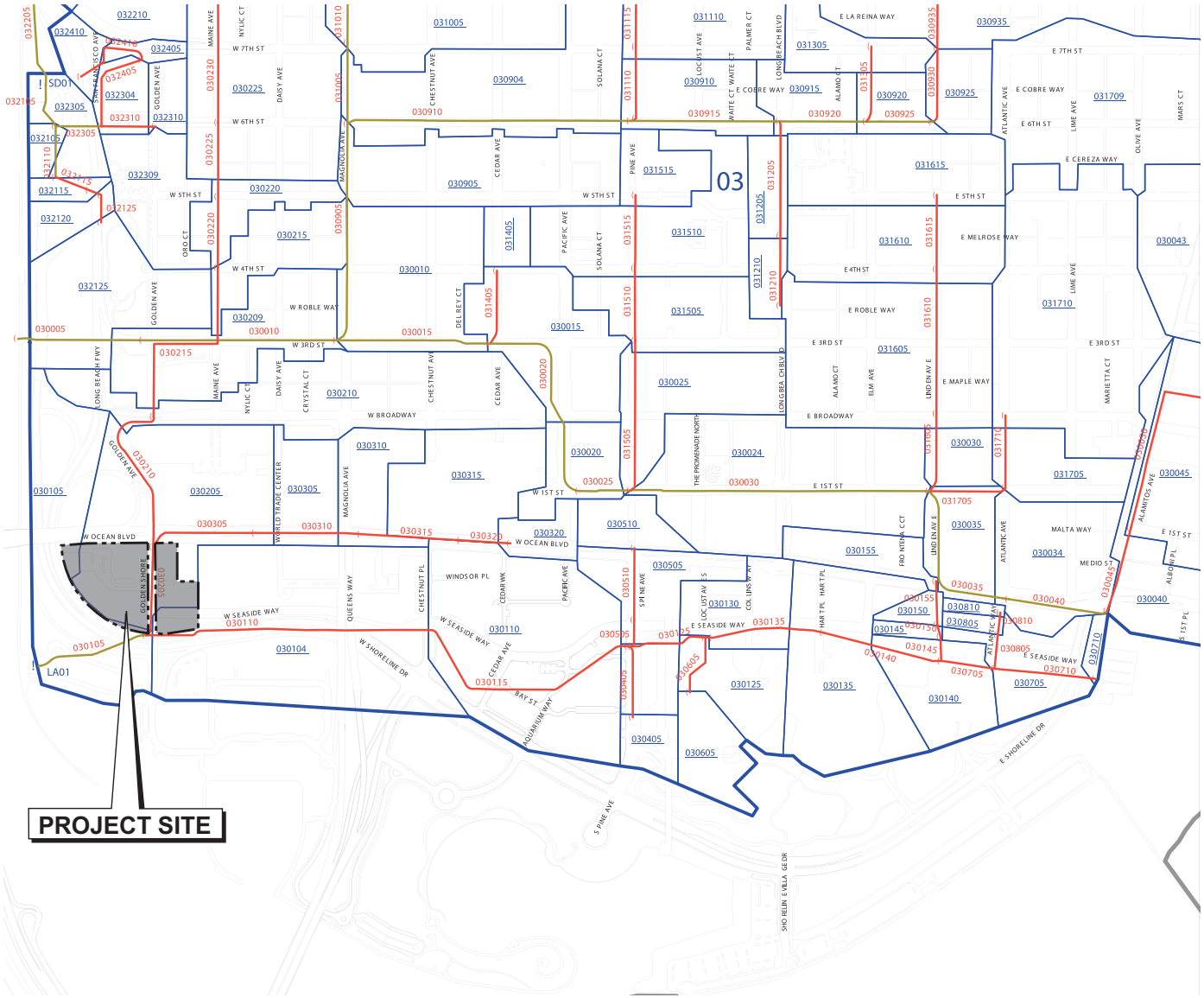
(b) Floodplains

According to the Flood Insurance Rate Map (FIRM) for the project site (FIRM Map No. 06037C1964F) issued by the Federal Emergency Management Agency (FEMA), the project site is located within Zone X, as illustrated in Figure IV.E-3 on page IV.E-6. Zone X refers to areas located within a 500-year floodplain (i.e., areas with a 0.2-percent chance of flooding in any given year), areas located within a 100-year floodplain (i.e., areas with a one-percent chance of flooding in any given year) with average depths of less than one foot or less than one square mile in area, and areas located within a 100-year floodplain that are protected from flooding by levees. The project site, as indicated on the FIRM, is within a 100-year floodplain that is protected by "Provisionally Accredited" levees, as determined by the U.S. Army Corps of Engineers (USACE), which is the agency responsible for operation and maintenance of the levees along the Los Angeles River.[2] A Provisionally Accredited Levee (PAL) is a levee that FEMA has previously accredited with providing one-percent annual chance protection on an effective FIRM and for which FEMA is awaiting data and/or documentation that will demonstrate the levee's compliance with 44 CFR Section 65.10, Mapping of Areas Protected by Levee Systems, of the National Flood Insurance Program (NFIP) regulations.

(c) Surface Water Quality

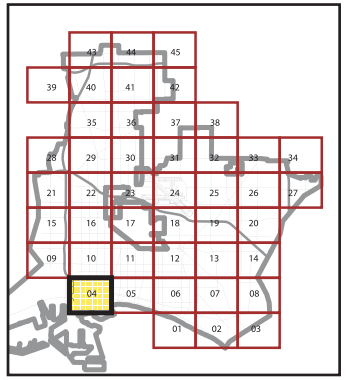
Surface water quality can be affected by a number of variables, which include land use, hydrology, meteorology, geology, and soils. Land uses may affect surface water quality based on the associated activities. As an example, office buildings generate small amounts of exterior pollutants, and surface parking lots have deposits of oil, gasoline, and other pollutants. These pollutants could be washed away by runoff. Meteorology may affect surface water quality through the quantity and intensity of storm events, which determine to what extent pollutants are washed away by runoff. Geology and soils may affect surface water quality in that they determine infiltration and runoff velocity. The more infiltration of runoff into the soil, and slower the runoff velocity, the less ability the runoff has to carry sediments and pollutants.

[2] *Federal Emergency Management Agency.* Provisionally Accredited Levees (PAL) Brochure. *April 2008. Located at: http://www.fema.gov/library/viewRecord.do?id=1987. Accessed June 15, 2009.*



City of Long Beach
Modeled
Stormwater System

- Analysis Node
- 030105 Conveyance ID
- City Pipe/Box
- City Channel
- Roadway Surface Drainage
- County Pipe/Box
- County Channel
- Regional Drain
- Storage Basin
- 03 Major Basin
- 030105 Sub Basin
- ! SD01 Pump Station
- City Boundary



Drainage Map

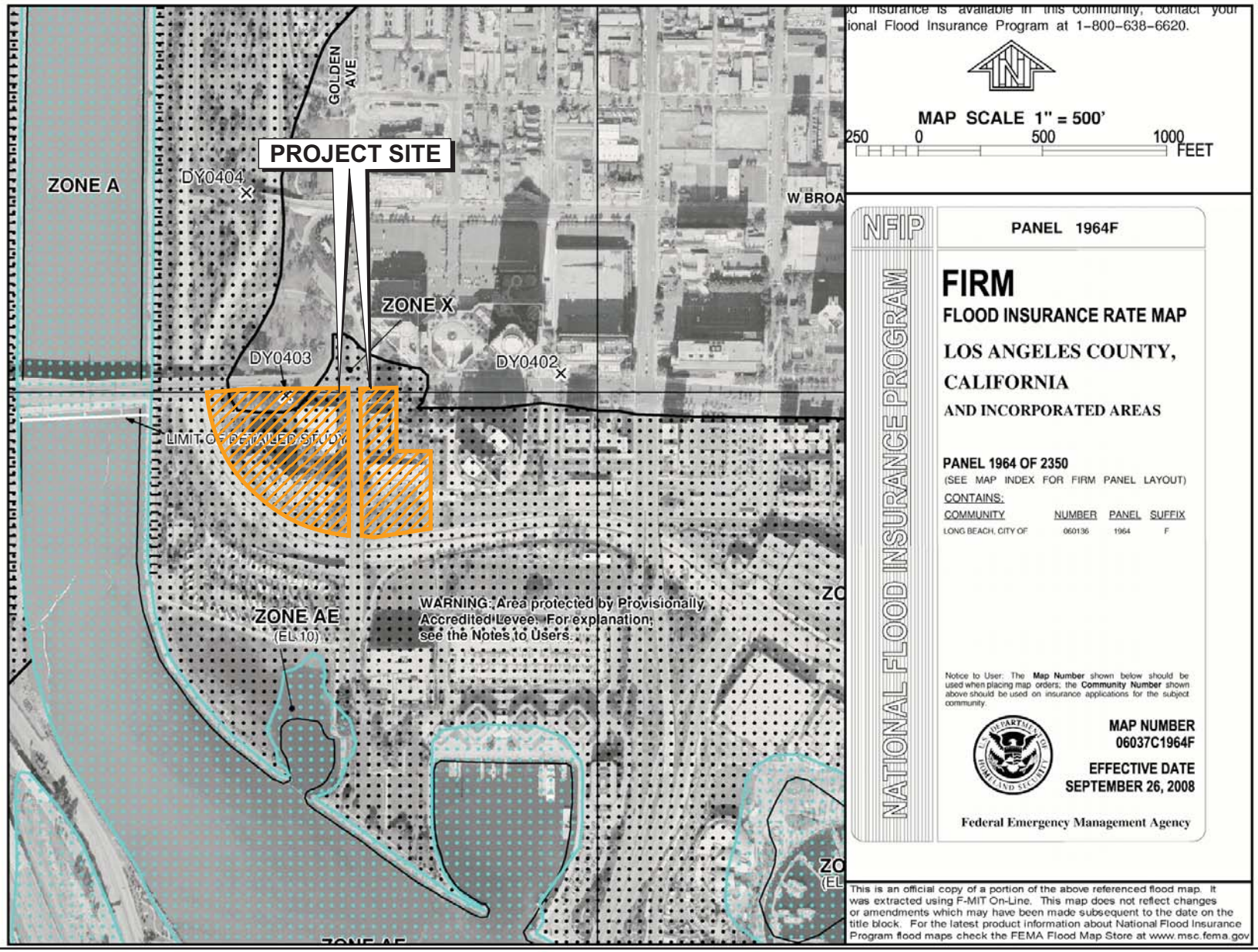
PCR

N

0 1200 2400 Feet

Source: City of Long Beach Stormwater Master Plan.

Figure IV.E-2
Existing Storm Drain System



PCR

Figure IV.E-3
Flood Insurance Rate Map

Source: Federal Emergency Management Agency, September 26, 2008.

The project site is located within the Los Angeles River Watershed. Since the watershed is highly urbanized, urban runoff and illegal dumping are major contributors to impaired water quality in the Los Angeles River and tributaries. Primary sources of storm water pollution in urban areas typically include automobiles and activities associated with automobile use, housekeeping and landscaping practices, industrial activities, construction, non-storm water connections to the drainage system, and accidental spills. Common pollutant sources and the pollutants that are generated from these sources are listed in Table IV.E-1 on page IV.E-8. Pollutant concentrations in urban runoff are extremely variable, and are dependent on source strength, storm intensity, runoff volume, and elapsed time since the previous storm event.

Runoff from the project site itself consists primarily of surface runoff generated on-site, with almost no surface flows entering the site. Storm water runoff flows off the project site to the existing local storm drain system and is eventually discharged into the Los Angeles River and Long Beach Harbor.

(2) Groundwater Resources

(a) Groundwater Hydrology

Based on the Geologic Map of California, published by the California Geological Survey (formerly the California Division of Mines and Geology, 1977), the project site is located within the coastal plain of Los Angeles County which consists of alluvium, lake playa, terrace deposits, unconsolidated and semi-consolidated materials. The project site is located in a subsection of the coastal plain designated as the Long Beach Plain.

Based on the State of California Bulletin No. 104 (Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County) dated June 1961, the project site is located within the West Coast Basin. The basin consists of recent alluvium that forms the semi-perched aquifer, the Bellflower aquitard, and the Gage aquifer. Regional groundwater beneath the project site is believed to be affected by seawater intrusion. A shallow perched water-bearing zone is encountered from depths of 10 to 20 feet below ground surface (bgs). The first regional occurring aquifer beneath the site is the Gage aquifer, which occurs at an approximate depth of 100 feet bgs in the vicinity. Shallow groundwater flow is generally towards the Long Beach/Los Angles Harbor and Los Angels River to the south/southwest.

Natural recharge of the shallow and semi-perched aquifers by percolation from the ground surface occurs throughout the Los Angeles Coastal Plain and by underflow from the recharge areas. However, such natural recharge has steadily decreased regionally as a result of urbanization and industrialization over the years, as well as channeling of the Los Angeles and

Table IV.E-1

Common Sources of Pollutants in Urban Runoff

Pollutant	Automobile/ Atmospheric Deposit	Urban Housekeeping/ Landscaping Practices	Industrial Activities	Construction Activities	Non-Storm Water Connections	Accidental Spills
Sediments	X	X	X	X		
Nutrients	X	X	X	X	X	X
Bacteria and Viruses		X		X	X	X
Oxygen Demanding Substances		X	X	X	X	X
Oil and Grease	X	X	X	X	X	X
Anti-Freeze	X	X		X	X	X
Hydraulic Fluids	X	X	X	X	X	X
Cleaners and Solvents	X	X		X	X	X
Heavy Metals	X	X	X	X	X	X
Chromium	X	X	X			
Copper	X	X	X			
Lead	X	X	X			
Zinc	X	X	X			
Iron	X		X			
Cadmium	X		X			
Nickel	X		X			
Manganese	X		X			
Paint		X		X	X	X
Wood Preservatives		X		X	X	X
Fuels	X		X	X	X	X
PCBs	X				X	X
Pesticides	X	X	X	X	X	X
Herbicides	X		X	X	X	X
Floatables [a]		X	X	X		X

[a] *Floatables in storm water are pollutants that contain significant amounts of heavy metals, pesticides, and bacteria.*

Source: Los Angeles Regional Water Quality Control Board, 2009.

San Gabriel Rivers. Artificial recharge programs have been developed to compensate for the loss of natural recharge areas and the heavy use of groundwater.

(b) Groundwater Quality

The general quality of groundwater within the Los Angeles Coastal Plain has been substantially degraded from background levels. The groundwater in the surrounding area has experienced seawater intrusion, which is currently under control in most areas. Groundwater in the lower aquifers of this basin is generally of good quality. However, the quality of

groundwater in parts of the upper aquifers is degraded by organic and inorganic pollutants from a variety of sources, such as leaking tanks, leaking sewer lines, and illegal discharges.[3]

b. Regulatory Framework

The following discussions present the regulatory and permitting processes that have been established to control flooding and the quality of water runoff from urban construction sites, and summarize the applicable federal, state, regional, local, and other hydrology/drainage and water quality regulatory requirements.

(1) Hydrology and Drainage

(a) National Flood Insurance Program

The National Flood Insurance Act of 1968 established the National Flood Insurance Program, which is based on the minimal requirements for floodplain management in the Code of Federal Regulations 44, Sections 59-77. The Federal Regulations are designed to minimize flood damage within Special Flood Hazard Areas. Based on the current FIRM from FEMA, a small portion of the project site is located within a 100-year floodplain protected from flooding by Provisionally Accredited Levees (PALs). However, as previously discussed, the PALs protecting the project site from 100-year flood events are in the process of being accredited by FEMA based on information provided by the USACE.

(b) City of Long Beach

The City of Long Beach refers to the Los Angeles County Department of Public Works (LACDPW) Hydrology and Hydraulic Design Manuals for storm drain planning and design calculations. The LACDPW requires that a storm drain conveyance system is designed for a 25-year storm event and that the combined capacity of the storm drain and street flow is able to convey a 50-year storm event. In areas with a sump condition, the conveyance system shall be designed for a 50-year storm event. All drainage improvements in the project vicinity are subject to review and approval by LACDPW and the City of Long Beach Public Works Department.

[3] *Waterstone Environmental, Inc.* Phase I Environmental Assessment Report, Subject Property Located at 1 Golden Shore Drive, Long Beach, California, 90802. *June 30, 1999.*

(2) Water Quality

(a) Clean Water Act

In 1972, the Federal Water Pollution Control Act, also referred to as the Clean Water Act, was amended to provide that the discharge of pollutants to waters of the United States (e.g., rivers, streams, ponds, lakes, and ditches) from any point source is unlawful, unless a National Pollution Discharge Elimination System (NPDES) permit authorizes the discharge. In the state of California, the NPDES permit program is administered and implemented by the State Water Resource Control Board (SWRCB), in conjunction with its nine Regional Water Quality Control Boards (RWQCB).

The Clean Water Act was amended in 1987 requiring the United States Environmental Protection Agency (USEPA) to create specific requirements for storm water discharges. In response to the 1987 amendments to the Clean Water Act, Phase I of the USEPA NPDES Program required NPDES permits for: (1) Municipal Separate Storm Sewer Systems generally serving, or located in, incorporated cities with 100,000 or more people (referred to as MS4 permits or municipal permits); (2) eleven specific categories of industrial activity (including landfills); and (3) construction activity that disturbs more than five acres or greater of land. As of March 2003, Phase II of the NPDES Program extends the requirements for NPDES permits to numerous small municipal separate storm sewer systems, construction sites of one to five acres, and industrial facilities owned or operated by small municipal separate storm sewer systems, which were previously exempted from storm water permitting.

Section 402 (p) of the Clean Water Act mandates that the municipal permits must: (1) effectively prohibit the discharges of non-storm water to the Municipal Separate Storm Sewer Systems except under certain provisions; and (2) require controls to reduce pollutants in discharges from the Municipal Separate Storm Sewer Systems to the maximum extent practicable (MEP), including Best Management Practices (BMPs), control techniques, and system, design, and engineering methods.

(b) Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969, California Water Code § 13000 et seq., established the principal State program for water quality control and authorizes the State Water Resources Control Board (SWRCB) to implement the provisions of the federal Clean Water Act. The Act divides the State into nine RWQCB areas. The proposed project site is located in Region 4, the Los Angeles RWQCB (LARWQCB) area. Each RWQCB implements and enforces provisions of the Porter-Cologne Act and the Clean Water Act subject to policy guidance and review by the SWRCB.

One of the functions of the RWQCB is to prepare and periodically update a Basin Plan. Each Basin Plan establishes the following: beneficial uses of water designated for each water body to be protected; water quality objectives for surface water and groundwater; and actions necessary to maintain these standards in order to control non-point and point sources of pollution in State waters. The "Water Quality Control Plan, Los Angeles Region," or "Basin Plan" in which the project site is located was approved in June 1994. Permits issued to control pollution (i.e., waste discharge requirements and NPDES permits) must implement Basin Plan requirements.

(c) Applicable National Pollutant Discharge Elimination System (NPDES) Permits

Pursuant to the regulatory program set forth above, the LARWQCB has jurisdiction over the following NPDES permits and other regulatory programs as it relates to the project and project site.

(i) Statewide General Construction Storm Water Permit

The General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ) is an NPDES permit that regulates dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Program (SWPPP). The SWPPP is required to list Best Management Practices (BMPs) to protect storm water runoff quality. Additionally, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the project site discharges directly to a water body listed on the Section 303(d) list for sediment.

(ii) Industrial Storm Water Program

The Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) is an NPDES permit that regulates discharges associated with ten broad categories of industrial activities. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically

achievable and best conventional pollutant control technology. The General Industrial Permit also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described. The General Industrial Permit requires that an annual report be submitted each July 1.

(iii) Municipal Permits and SUSMP Requirements

As indicated above, in accordance with the Clean Water Act, NPDES permits are also required for storm water discharges from municipal separate storm sewer systems (referred to as MS4 permits or municipal permits). The MS4 permits require the discharger to develop and implement a Storm Water Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable (MEP). MEP is the performance standard specified in Section 402(p) of the Clean Water Act. The storm water management programs specify what best management practices (BMPs) will be used to address certain program areas. The program areas include public education and outreach; illicit discharge detection and elimination; construction and post-construction; and good housekeeping for municipal operations. In general, medium and large municipalities are required to conduct chemical monitoring, though small municipalities are not.

A municipal storm water NPDES permit has been issued to Los Angeles County and 85 cities within the County including the City of Long Beach. As described below, the City of Long Beach has been issued its own NPDES permit (NPDES Permit No. 99-060; CAS004003/CI 8052) by the LARWQCB. Under more recent regulations adopted by the LARWQCB and set forth in these municipal NPDES permits, the LARWQCB set forth a Standard Urban Storm Water Mitigation Plan (SUSMP) that was developed to address storm water pollution from new development and redevelopment by the private sector. Jurisdictions in Los Angeles County are required to adopt the requirements set forth in the County SUSMP into their own SUSMP. Implementation of a project-specific Water Quality Management Plan (WQMP) that meets SUSMP requirements is required during the operational life of the project to ensure that storm water pollution is addressed by incorporating BMPs in the design phase of development. This requirement provides for water quality design standards to ensure that storm water runoff is managed for water quality concerns in addition to flood protection and that pollutants carried by storm water are retained and not delivered to waterways. Project applicants for specified projects are required to select source control and treatment control BMPs from the list approved by the LARWQCB and included in the SUSMP. In combination, these treatment control BMPs must be sufficiently designed and constructed to treat, infiltrate, or filter the first 0.75-inch of storm water runoff from a storm event. The SUSMP provisions that are applicable to all land use categories include: (1) reducing peak storm water runoff discharge rates; (2) conserving natural areas; (3) minimizing storm water pollutants of concern; (4) protecting slopes and

channels; (5) providing storm drain stenciling and signage; (6) properly designing outdoor material storage areas; (7) providing proof of ongoing BMP maintenance; and (8) designing standards for structural or treatment control BMPs.

(d) City of Long Beach

The LARWQCB has issued the City of Long Beach its own NPDES permit (NPDES Permit No. 99-060; CAS004003/CI 8052). As part of its Report of Waste Discharge (ROWD) submitted for its NPDES permit, the City of Long Beach included among other programs, a storm water management program. In accordance with the objectives of the federal Clean Water Act and the State Porter-Cologne Water Quality Control Act, the Long Beach Storm Water Management Program (LBSWMP) contains several elements, practices and activities aimed at reducing or eliminating pollutants in storm water to the maximum extent practicable (MEP). Among these programs is a development planning and construction program. In accordance with this program as well as the requirements of the SUSMP mandated by the RWQCB, Chapter 18.95 of the Long Beach Municipal Code includes several requirements relating to development planning and construction. Included in these requirements are source control BMPs for projects such as gasoline stations and hillside projects. Additional requirements include treatment control BMPs and requirements regarding erosion control, peak runoff, and BMP maintenance for projects that include ten or more home subdivisions, 100,000-square foot or more square foot commercial developments and projects located adjacent to or directly discharging to environmentally sensitive areas. Post-construction structural or treatment control BMPs designed to mitigate (infiltrate or treat) the volume of runoff produced from a 0.75-inch storm event prior to its discharge to a storm water conveyance system are also required for these specific projects. In addition, in accordance Chapter 18.95 of the Long Beach Municipal Code, construction projects are required to prepare a SWPPP that will incorporate construction site BMPs.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Hydrology

The evaluation of hydrology and drainage impacts is qualitative and based on the assumption that, given the developed nature of the project area, the redevelopment of the site contemplated in the proposed project will not substantially change the rate or volume of stormwater flows coming off the site. The adequacy of stormwater drainage facilities in the project area is based on information provided in the City of Long Beach Stormwater Master Plan.

(2) Water Quality

For purposes of the water quality analysis, impacts were assessed by evaluating the types of pollutants and/or effects on water quality likely to be associated with construction and operation of the project. Project consistency with relevant regulatory permits/requirements, including BMPs and applicable plans, is evaluated to demonstrate how compliance would ensure that the project would not significantly degrade existing water quality.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study includes questions relating to hydrology, drainage, flooding, and water quality. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if one or more of the following occurs:

(1) Hydrology/Drainage

For purposes of this analysis, hydrology impacts will be considered significant if the project will:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (refer to Section VII, *Other Environmental Considerations*, of the EIR);

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;

- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (refer to Section VII, *Other Environmental Considerations*, of the EIR); or

- Inundation by seiche, tsunami, or mudflow (refer to Section VII, *Other Environmental Considerations*, of the EIR).

(2) Water Quality

For the purposes of this analysis, surface water quality and groundwater quality impacts will be considered significant if:

- Development of the proposed project degrades the surface water quality of receiving waters to levels below standards considered acceptable by the LARWQCB or other regulatory agencies or development of the proposed project violates waste discharge requirements;

- Activities associated with the proposed project impair the beneficial uses of the receiving waters; or

- Development of the proposed project degrades the groundwater quality to levels below standards considered acceptable by the LARWQCB or other regulatory agencies.

c. Project Features

The following project features are proposed as part of the project and supplement the Project Description presented in Chapter II of the EIR:

(1) Construction

- The proposed project will comply with NPDES regulations that will include the following:

    - As part of the project's mass grading and backbone infrastructure construction, a NPDES permit will be secured and a SWPPP will be developed and implemented during the construction period, as required by the permit. The SWPPP will include BMPs to reduce pollutant loading to storm water runoffs. Such BMPs may include but are not limited to silt fences, straw bale barriers, check dams, sand bag berms at catch basin inlets, hydroseeding and temporary sediment basins. Once the project mass grading and infrastructure is constructed, much of the graded site may remain vacant for a period of time. During that time frame, the erosion control features of the SWPPP will be maintained on those areas that are not developed.

    - The various separate development sites within the project will also be required to secure a separate NPDES construction permit and prepare a site specific SWPPP as they are developed. BMPs within the SWPPP may include but are not limited to check dams, straw bale barriers, inlet sediment traps, gravel and wire mesh filters for curb inlets, gravel and wire mesh filters for drop inlets, sand bag berms at catch basins, temporary drains and swales, silt fences and stabilized construction entrances and exits.

    - The proposed project would be required to implement erosion control measures during post-rough grading, including, but not limited to hydroseeding, Guar Soil Binders, straw mulch, geotextiles, plastic covers and erosion control blankets/mats, wood mulching, silt fencing desilting basins, sandbag barriers, storm drain inlet protection, and stabilized construction entrances and exits.

    - The proposed project will comply with the requirements of the short-term NPDES permits for discharge of groundwater to the storm drain during construction dewatering activities, if such dewatering is required.

(2) Operation

- Typical drainage improvements, such as catch basins, roof drains, and surface parking drains, will also be constructed. Such improvements will be designed in accordance with standard engineering practices.

- In accordance with the Standard Urban Storm Water Mitigation Plan (SUSMP) requirements described above, the proposed project will include the following:

    - The storm water system will be designed to treat potential pollutants and runoff produced from a 0.75-inch storm event prior to its discharge to a storm water conveyance system.

    - Project-wide BMPs will be implemented that may include, but are not limited to, catch basin filters, prohibitive stenciling, and biofilters.

    - Individual development permanent BMPs may include, but are not limited to, catch basin filters, biofilters, prohibitive stenciling at on-site catch basins, grass pavers, and oil/water separators at on-site parking areas.

    - The project will comply with requirements regarding outdoor trash and storage areas and storm drain stenciling.

d. Analysis of Project Impacts

(1) Hydrology and Drainage

Implementation of the proposed project's three development options will create a mixed-use development on the project site with a substantial increase in land use intensity relative to existing uses. However, despite the increase in density on-site, stormwater flows generated on-site will not be substantially changed, given the developed and largely impervious nature of the existing site and the proposed project design. While the implementation of any of the proposed project's development options would result in a reduction in pervious surfaces on-site, namely the landscaped areas along Ocean Boulevard and Golden Shore, the proposed project would not substantially increase the amount of impervious surfaces on-site or associated stormwater volumes generated during storm events. Furthermore, the proposed project includes extensive landscaping throughout the development under all three project options, which would serve to retain a portion of stormwater on-site that would otherwise be conveyed to local storm drains. Therefore, based on the limited potential for substantial increases in stormwater volumes generated on-site, it is anticipated that the City and County storm drains serving the project site are adequate to meet the projected demands of the proposed project. Accordingly, impacts related to stormwater drainage infrastructure would be less than significant and no mitigation measures are required.

As previously discussed, the FIRM prepared by FEMA currently indicates that the majority of the project site is located within an area protected by levees (i.e., Los Angeles River channel) from 100-year flood events. The levees protecting the project site from potential

flooding from the Los Angeles River are considered Provisionally Accredited by FEMA, and it is anticipated that they will be fully accredited pending review of information provided by the USACE, which operates and maintains the levees. Given the ongoing inspection and maintenance of the Los Angeles River levees by the USACE, the potential for failure of the levees is considered minimal. Therefore, no significant impacts associated with the placement of housing or structures within a 100-year flood hazard or flooding as a result of the failure of a levee or dam area will occur. No mitigation measures are required.

Overall, based on the above discussion, the proposed project would not Substantially alter the existing drainage pattern of the site or area, create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, or place housing or structures that would impede or redirect flood flows within a 100-year flood hazard area. As such, impacts related to hydrology and drainage would be less than significant.

(2) Water Quality

(a) Construction

(i) Surface Water

Grading activities associated with project construction will temporarily increase the amount of suspended solids from surface flows derived from the project site during a storm event due to erosion of exposed soil. In addition, due to on-site watering activities utilized to reduce airborne dust (please refer to Section IV.B., Air Quality, of this EIR), construction could contribute marginally to increased sediment loading of surface runoff during dry weather conditions. As indicated above, NPDES permits will be obtained prior to construction or grading activities for each phase of project development. These permits will require that SWPPPs be developed and implemented. As described above, BMPs and erosion control measures will be included in the SWPPP. With implementation of NPDES and local regulations, proposed construction activities will not result in substantial erosion or sedimentation, degrade surface water quality of receiving waters to levels below standards considered acceptable by the LARWQCB or other regulatory agencies, or impair the beneficial uses of the receiving waters. In addition, construction of the project will not result in a violation of any water quality standards or waste discharge requirements and will not otherwise substantially degrade water quality. Therefore, construction-related impacts to surface water quality will be less than significant given compliance with applicable regulations.

(ii) Groundwater

Construction activities on the project site could require excavation of up to 20 feet below ground surface during removal of existing foundations and construction of subterranean parking structures. Implementation of these construction activities could involve dewatering, given the historic groundwater levels measured on-site. Although it is not anticipated that groundwater contamination exists beneath the project site, should contamination be discovered, a short-term NDPES permit would be obtained to ensure that any needed groundwater treatment will be completed prior to discharging the groundwater to the storm drain, in compliance with storm water regulations. Therefore, construction activities associated with the project will not degrade the groundwater quality to levels below standards considered acceptable by the LARWQCB or other regulatory agencies. In addition, these short-term activities will not substantially deplete groundwater supplies or interfere with groundwater recharge. As such, groundwater impacts during construction of the project will be less than significant given compliance with applicable regulations.

(b) Operation

(i) Surface Water

Operation of the proposed project will produce pollutants typically associated with urban uses, such as oil and grease, metals, fertilizers, pesticides, dirt from landscaped areas, and litter. Pollutants in this runoff have the potential to be carried off-site and increase pollutant levels in affected receiving waters such as the Los Angeles River, Queensway Bay, and Long Beach Harbor. Although the proposed project will include landscaped areas, as previously discussed, it will not substantially change the amount of pervious surface area on the project site relative to existing conditions. As such, the minor change in overall imperviousness of the site and associated runoff will not notably increase or reduce the proposed project's contribution of surface water runoff discharge to existing or planned storm water drainage systems or of additional sources of polluted runoff.

In addition, as previously discussed, the applicant and subsequent property owners will be required to comply with SUSMP requirements during the operational life of the project. Such requirements will include source control BMPs, treatment control BMPs, requirements regarding erosion control peak runoff, and BMP maintenance. As part of these requirements, post-construction structural or treatment control BMPs designed to mitigate (infiltrate or treat) the volume of runoff produced from a 0.75-inch storm event prior to its discharge to a storm water conveyance system will also be implemented. Therefore, runoff contaminants generated by the operation of the proposed project will not violate any water quality standards or waste discharge requirements, impair the quality of receiving surface waters, impair the beneficial uses of the

receiving waters, or otherwise substantially degrade water quality. Thus, impacts to surface water quality associated with operation of the project will be less than significant given compliance with applicable regulations.

(ii) Groundwater

As indicated above, the proposed project is not expected to notably increase polluted runoff in the area given a lack of proposed uses with the potential to generate large amounts of pollutants as well as the introduction of a storm water treatment system that will incorporate SUSMP requirements. This negligible change in pollutants will also not increase the associated potential from groundwater contamination through percolation. As such, operation of the proposed project will not degrade the groundwater quality to levels below standards considered acceptable by the LARWQCB or other regulatory agencies or impair the quality of receiving surface waters or groundwater. Impacts would be less than significant in this regard and no mitigation measures are required.

3. CUMULATIVE IMPACTS

Development of the proposed project and other related projects could result in flooding, groundwater hydrology, erosion and sedimentation, and overall water quality impacts.

a. Hydrology and Drainage

Cumulative development within the project area could incrementally increase the net impervious surface area of watershed, which could increase stormwater flows entering flood control facilities. Although a net increase in stormwater flows from increased development could occur, it is not anticipated that such development will substantially increase the stormwater flow volumes currently conveyed by existing infrastructure. Furthermore, implementation of flood control improvements, as necessary and anticipated by applicable drainage master plans of affected jurisdictions, would serve to minimize the potential for adverse flooding impacts resulting from cumulative development. With implementation of planned stormwater improvements in anticipation of development projects, cumulative flooding impacts would be less than significant, and the project's contribution to overall impacts would not be cumulatively considerable.

b. Water Quality

Impacts to water quality during construction and operation, as is the case with the proposed project, would be minimized through compliance with the NPDES permit requirements. Development and implementation of an approved SWPPP for each cumulative

project would address project-specific water quality impacts during construction, and likewise each approved project-specific WQMP would address water quality impacts during project operation. Proper implementation of recommended source-control, volume-based, and treatment BMPs pursuant to each project's SWPPP and WQMP would serve to preclude significant cumulative water quality impacts. Additionally, the proposed project's contribution to these impacts would not be cumulatively considerable.

With regard to the placement of housing or other structures within a 100-year floodplain, it is not anticipated that any of the related projects propose development within or near designated flood zones. While unlikely, should cumulative development be located within a 100-year flood zone, the project's design and construction would be required to remove the area from the flood-prone area through flood protection structures (e.g., levees) or raising the base elevation to a level above the 100-year flood elevation. Furthermore, a Letter of Map Revision, issued by FEMA, would also be required to certify that the development is no longer susceptible to 100-year floods. Compliance with FEMA requirements through the National Flood Insurance Program (NFIP) for each respective city would minimize risks associated with the placement of structures within designated 100-year flood zones. As such, cumulative floodplain impacts would be less than significant, and the project's contribution to these impacts would not be cumulatively considerable.

Given compliance with applicable regulations and requirements of affected public agencies, it is anticipated that the proposed project and related projects would not result in adverse cumulative effects related to flooding, hydrology, drainage, erosion and sedimentation, or water quality. Cumulative hydrology and water quality impacts would be less than significant, and the proposed project's contribution to these impacts would not be cumulatively considerable.

4. MITIGATION MEASURES

a. Hydrology/Drainage

Based on the analysis provided above, development of the proposed project will not result in significant hydrology impacts. Thus, no mitigation measures are required.

b. Water Quality

As is the case with hydrology- and drainage-related impacts, development of the proposed project will not result in significant water quality impacts. Thus, no mitigation measures are required.

5. SIGNIFICANCE AFTER MITIGATION

a. Hydrology/Drainage

As discussed above, the proposed project would not appreciably increase the volume or rate of stormwater flows generated on-site, and the existing storm drains serving the project site are adequate to convey project-related flows. Therefore, a less than significant impact relative to hydrology and drainage will occur.

b. Water Quality

As previously indicated, the project will not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the LARWQCB or other regulatory agencies, impair the beneficial uses of the receiving waters, violate any water quality standards or waste discharge requirements, degrade the groundwater quality to levels below standards considered acceptable by the LARWQCB or other regulatory agencies or substantially depletes groundwater supplies, or interfere substantially with groundwater recharge.

IV. ENVIRONMENTAL IMPACT ANALYSIS
F. LAND USE

1. INTRODUCTION

This section provides an analysis of the proposed project with regard to consistency with applicable land use regulations, as well as the compatibility of the proposed project with the surrounding uses in the area. Secondary environmental effects caused as a result of the land use relationships analyzed in this section are addressed in other sections of this Draft EIR.

2. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Site Location

The project site is located in downtown Long Beach, approximately three blocks north of the Long Beach Harbor and one block east of the Los Angeles River. With respect to surrounding streets, the project site borders Ocean Boulevard, Shoreline Drive, and Seaside Way. Ocean Boulevard, a major east-west arterial, borders the north edge of the project site, just east of the Long Beach Freeway (I-710) and the Los Angeles River. Shoreline Drive, a major arterial south of the I-710 alignment (the I-710 alignment terminates at Shoreline drive north of Ocean Boulevard), marks the west and south edges of the project site. Seaside Way, a local east-west street borders the south edge of the Arco Center and the eastern portion of the project site (i.e., Parcel 3). No streets demark the site's east boundary, which adjoins the Arco Center. Golden Shore, a north-south local street, bridges over Shoreline Drive and transects the project site. The division created by Shoreline Drive forms the respective eastern and western portions of the project site.

(2) Project Site Existing Land Uses and Zoning

The project site is entirely developed with bank, office, and medical buildings; parking decks; formal landscaped areas; and driveways. Existing land uses in the western portion of the project site include the six-story City National Bank and the two-story Molina Health Care buildings. These two buildings contain a total of 136,341 square feet of floor area, including 4,705 square feet available for retail uses and 131,636 square feet available for office uses. The

project site west of Golden Shore also includes 557 parking spaces located in combined surface and subterranean parking decks. The eastern portion of the project site is occupied by the 14-story Union Bank of California building. This building contains a total floor area of 157,662 square feet, including 7,155 square feet of area available for retail uses and 150,507 square feet of available for offices uses. A total of 363 spaces are provided in a combination of structure and surface facilities. Driveway access to the eastern and western portions of the project site is provided via Golden Shore.

Driveway access to the site is partially defined by the configuration of surrounding streets. To the west of the project site, Ocean Boulevard, a two-way arterial, bridges over the Los Angeles River west of the project site and merges with I-170. Ocean Boulevard's approach to the bridge creates a grade separation between the western portion of the project site and the adjacent street. The segment of Shoreline Drive from Ocean Boulevard to Golden Shore allows no direct access from the project site. In addition, the project site currently has no driveway access to Seaside Way. Therefore, all of the existing driveways take access to Golden Shore, only. Existing parking is provided above- and below-grade decks. The project site contains a total land area of 5.87 acres, including 4.31 acres in the western portion of the project site and 1.56 acres in the eastern portion of the project site.

The entire project site is designated as Long Beach Downtown Shoreline Planned Development (PD-6), Subarea 1. Subarea 1 was formerly a component of the West Beach Redevelopment Subarea and current development occurred under the jurisdiction of the Redevelopment Agency by means of formal Development Agreements. According to the Downtown Shoreline Planned Development Plan (amended August 8, 2006), all land within this subarea has been developed or planned for development under binding development agreements and the court decision of the case *Redevelopment Agency of the City of Long Beach, et al, v. California Coastal Commission*. Currently, development must occur in accordance with agreements specific to the existing uses. The PD-6 designation, created under Ordinance C-7848, also requires the dedication of land for Santa Cruz Park along the south side of Ocean Boulevard.

Additionally, the project site is located approximately four miles southwest of Long Beach Municipal Airport, but is not located within the boundaries of an Airport Land Use Plan.

(3) Surrounding Uses and Zoning

Surrounding properties on the south side of Ocean Boulevard are located within the Downtown Shoreline Planned Development District (PD-6). Properties north of Ocean Boulevard are located within the Downtown Planned Development District (PD-30). PD-6 allows a broad range of office, retail, residential, restaurant, institutional, and waterfront

recreational uses. PD-30 allows high-rise, downtown core, promenade, mixed-use, public park, and institutional uses.

Land uses directly to the north of the project site, north of Ocean Boulevard, include public parks, a hotel, and office uses. North of the project site, much of the area to the west of Golden Avenue (the northerly extension of Golden Shore) is taken by freeway interchange associated with I-710. As with the freeway alignment to the north of Broadway (one block north of Ocean Boulevard), much of the interchange is dedicated City of Long Beach public park and open space, including Santa Cruz Park at the north side of Ocean Boulevard and the 33-acre Caesar E. Chavez Park, which extends between approximately Broadway and the Shoemaker Bridge to the north. Directly north of the project site to the east of Golden Avenue are the 15-story Hilton Hotel and the 27-story One World Trade Center. Under PD-30, the area at the north side of Ocean Boulevard, between Golden Avenue and Alamitos Avenue to the east, has an unlimited building height designation.

Directly to the east of the project site are the Arco Center, also known as 200 - 300 Oceangate Plaza, and the 400 Oceangate Plaza office building. The eastern portion of the project site, the Arco Center, and 400 Oceangate Plaza share the same block on the south side of Ocean Boulevard, between Golden Shore and Queens Way. As with the western portion of the project site, this block is designated as PD-6, Subarea 1. The Arco Center site, which is consists of twin 13-story office buildings, is physically connected to the eastern portion of the project site by a broad, landscaped plaza/podium. The Arco Center also includes parking structure and deck parking to the east of the Arco Center and south of the 400 Oceangate Plaza building, where the parking area extends along Seaside Way. A private street/driveway known as Oceangate Way, separates the Arco Center and 400 Oceangate along the Ocean Boulevard frontage.

Farther to the east, east of Magnolia Avenue/Queens Way, the Long Beach downtown core offers a concentration of civic/institutional, residential, commercial, and recreational uses. High rise residential buildings are the predominant land use along the south side of Ocean Boulevard, between Queens Way, one block to the east, and Pine Avenue. As with the project site, these residential parcels are located in the strip between Ocean Boulevard and Seaside Way. This area is designated as PD-6, Subarea 4, which allows high-density residential development, office, retail, hotel, restaurant, personal services, and entertainment uses. Within this area, a landscaped open space, which is part of the Victory Park dedication, lines the south side of Ocean Boulevard. This open space allows a deep building setback, pedestrian amenities, and public access along the high-rise street frontage. The Breakers Hotel (a City of Long Beach Cultural Landmark), an office building, and the Long Beach Convention and Entertainment Center, are located at the south side of Ocean Boulevard to the east of Pine Avenue. The hotel and office building are designated as PD-6, Subarea 7 and the Convention Center, which extends south to Shoreline Drive, is designated as PD-6, Subarea 8.

Prominent land uses to the east of Magnolia Avenue/Queensway, at the north side of Ocean Boulevard, include the Long Beach Civic Center, the Long Beach Transit Mall, and a variety of office buildings, restaurants, and hotels. These parcels are designated as Institutional and Downtown Core Districts within PD-30.

A vibrant and recently developed complex of retail, restaurant, entertainment, and recreational uses are located to the east of Queens Way, to the south of Seaside Way. This area, which is designated as PD-6, Subareas 5 and 6, include The Pike at Rainbow Harbor, the Aquarium of the Pacific, Shoreline Park, the Esplanade at Rainbow Harbor, and Shoreline Village. The Downtown Long Beach Marina and Marina Green Park are also located in this area, within PD-6, Subarea 11. Primary access to Rainbow Harbor is via Shoreline Drive, which just east of the Downtown Marina, curves to join Ocean Boulevard in the proximity of Alamitos Avenue. Alamitos Avenue demarks the east edge of the downtown area, approximately one mile to the east of the project site. East of Alamitos Avenue, Ocean Boulevard follows the harbor amidst a concentration of mid- and high-rise residential uses to its terminus at the Long Beach Marina.

The Golden Shore RV Resort, a Good Sam's recreational park for visitors, is located directly south of the western portion of the project site, south of Shoreline Drive. This facility, which is accessed via Golden Shore, is located in PD-6, Subarea 2. The City of Long Beach Golden Shore Marine Biological Reserve, still in PD-6, Subarea 2, is located to the south of the RV park. Also located in Subarea 2, to the east of Golden Shore, is the Office of the State University Chancellor, the headquarters for the operation of State University and College campuses. This facility includes an approximately six-story office building and a broad, landscaped surface parking lot.

The Catalina Express terminal and parking structure are located in PD-6, Subarea 3, along Golden Shore, just east of the Chancellor's campus. This terminal, which is served by a small harbor called Queensway Landing, offers ferry and express service to Catalina Island.

I-710 and the Los Angeles River, just north of its confluence with Queensway Bay, are located to the west of the project site. The Port of Long Beach and Terminal Island are located to the west of the project site, west of the Los Angeles River. Port facilities include the Long Beach Main Channel, the Middle Harbor, basins, piers, and container terminals. Cranes and booms associated with loading and unloading activities for container vessels are visible above the low-profile harbor facilities.

b. Regulatory Framework

(1) Local Plans, Policies, and Regulations

(a) City of Long Beach General Plan

California state law requires that every city and county prepare and adopt a long-range comprehensive General Plan to guide future development and to identify the community's environmental, social, and economic goals. The City of Long Beach is currently going through the process of updating the current General Plan, which was originally adopted in July 1989 and most recently revised in April 1997. The General Plan consists of mandatory Elements, including Land Use, Transportation, Housing, Conservation, Noise, Open Space and Safety. The Housing Element for 2008-2012 has been recently revised and is available for review. In addition, the General Plan includes three optional Elements, including Air Quality, Scenic Routes and Seismic Safety. The Land Use Element of the General Plan identifies the project site and the immediately surrounding area to the east and west of the Los Angeles River as a major activity center (Downtown/Port Activity Center). In addition, the Land Use Element designates the project site and area to the south of Ocean Boulevard, to the east of the Los Angeles River as "Area B." Land use controls associated with Area B include the Long Beach Local Coastal Program, Downtown Shoreline Planned Development Plan and Ordinance which allows visitor-serving and entertainment uses, open space, offices, and high density residential uses. The project site and surrounding area, with the exception of the dedicated park along the south curb of Ocean Boulevard is designated as Land Use District 7 (Mixed-Use).

The City of Long Beach adopted the Long Beach Local Coastal Program (LCP), as required under the California Coastal Act of 1976, in February 1980. Subsequently, the LCP was incorporated into the General Plan as a General Plan Element. The purpose of the LCP is to preserve shoreline resources and provide for public access and uses within a designated "coastal zone." The coastal zone delineated under the Long Beach LCP extends north to Ocean Boulevard in the project vicinity. Under the LCP, this area is designated as Downtown Shoreline, or "DS." According to the LCP, the Downtown Shoreline is characterized by mid- to high-rise office and residential buildings and large scale public recreation and entertainment facilities. The project is compared to the applicable goals and policies of the General Plan in Subsection 3.d, Analysis of Project Impacts, below.

(b) Long Beach Strategic Plan 2010

The adopted Long Beach Strategic Plan 2010 represents the views of residents, task forces, and City staff regarding key issues that concern the City. These include a growing population, demand for homes, education, needed youth services, economic well-being, and

enhancing the environment. The project is compared to the applicable goals and policies of the Long Beach Strategic Plan 2010 in Subsection 3.d, Analysis of Project Impacts, below.

(c) Downtown Shoreline Planned Development District

The project site is located within the Downtown Shoreline Planned Development District (PD-6), Subarea 1. PD-6 (amended August 8, 2006) provides a framework and guide to control the development of the Downtown Shoreline. PD-6 is intended to coordinate future public and private improvements in a mixed-use land concept. Due to high public interest in the Downtown Shoreline and for the purpose of maximizing public access, development in PD-6 is subject to the Planning Department Site Plan Review process.

The project site is located in Subarea 1 of the Downtown Shoreline Planned Development. This area is described as the "West Beach Redevelopment Subarea," and is currently built-out in accordance with binding Development Agreements between the Long Beach Redevelopment Agency and the original developers of the Subarea 1. Currently, all development must occur in accordance with existing binding agreements and permits. However, as the redevelopment area has been completed, the West Beach Redevelopment Subarea is no longer applicable to parcels within Subarea 1 or any future development. Criteria established under the court decision, *Redevelopment Agency of the City of Long Beach, et al, v. California Coastal Commission*, also set forth specific development criteria that would no longer be applicable to future development in Subarea 1 The project is compared to the applicable standards and policies of PD-6 in Subsection 3.d, Analysis of Project Impacts, below.

(d) City of Long Beach Municipal Code

The Long Beach Municipal Code (LBMC) Zoning Regulations (Title 21), in conformance with General Plan land use designations, regulates land use development within the City, including permitted uses, building setbacks, heights, parking, design standards, and other criteria. Section 21.37.030 of the LBMC establishes special districts, called Planned Development Districts. Planned Development Districts are more comprehensive than zoning and are intended to achieve a specific outcome in a geographic area. The Planned Development District applicable to the project site is the Downtown Shoreline Planned Development District, described above. In the event that specific development standards are not addressed in the respective Planned Development District, LBMC requirements are enforced.

(2) Regional Plans, Policies, and Regulations

(a) SCAG Regional Comprehensive Plan, Regional Transportation Plan, and Growth Vision Report

SCAG is a joint powers agency with responsibilities pertaining to regional issues. SCAG's responsibilities include preparation of regional plans and policies in conjunction with its constituent members and other regional planning agencies. Current plans include the 2008 draft Regional Comprehensive Plan (RCP), the adopted 2008 Regional Transportation Plan (RTP), and the adopted Compass Blueprint 2% Strategy (Growth Vision Report). Although not formally adopted, the proposed RCP has been accepted by SCAG for use as an advisory document for local jurisdictions in the development of local plans and to address local issues of regional significance.

The 2008 RTP provides a long-term investment framework for addressing the region's transportation and related challenges and includes population, housing, and employment forecasts. These forecasts are presented for planning within 14 SCAG defined subregions. The RTP is intended to guide transportation policies for the region through the year 2035. RTP population projections for the project area are addressed in Section IV.G, Population, Housing and Employment, of this Draft EIR.

In the development of the Growth Vision Report, SCAG collaborated with interdependent sub-regions, counties, cities, communities and neighborhoods in a process referred to by SCAG as "Southern California Compass." This process resulted in the development of a shared Growth Vision for SCAG's six county area. The underlying goal of the growth visioning effort is to make the SCAG region a better place to live, work, and play for all residents. Specific policy and planning strategies of the Growth Vision Report are provided as a way to achieve each of the four principles intended to promote and maximize regional mobility, livability, prosperity and sustainability. SCAG's Compass Blueprint 2% Opportunity Areas, which incorporate 2 percent of the land area in the SCAG region, are key areas for targeting growth. These opportunity areas are made up primarily of metro centers; city centers; rail transit stops; airports, ports, and industrial centers, and residential in-fill areas that have the ability to provide regional and subregional transportation benefits. The proposed project is located within the 2% Strategy Opportunity Area associated with the Long Beach metro center and the I-710 and Metro Rail Blue Line corridors.[1] The project's consistency with the applicable policies of the RTP, and Compass Blueprint Plan is discussed Subsection 3.d, Project Impact Analysis.

[1] *Southern California Association of Governments, Compass Blueprint Opportunity Area Maps, South Bay Cities.*

(b) Gateway Cities Council of Governments

The City of Long Beach is a member of the Gateway Cities Council of Governments (COG). The COG advocates for its members at the regional, state, and federal levels on issues of importance, such as transportation planning and funding, economic development, and air quality. With respect to the City of Long Beach, the COG has prepared a transportation and land use initiative, entitled *I-710/Major Corridor Study* (August 2004), for member cities along the I-170 freeway corridor. The *Corridor Study* evaluates the effects of the I-710 freeway on the adjoining community, with health as the overriding consideration. Every action is viewed as an opportunity for repair and improvement of the current situation.[2] Issues addressed under the *Corridor Study* include health (primarily air quality); role of the freeway with regard to jobs and economic development; safety; noise; congestion and mobility; community enhancements; design concepts; and environmental justice. As the project is located in close proximity of the I-710 freeway, the issues of the freeway's air quality impacts and noise are discussed in respective sections of this Draft EIR (see Sections IV.B, Air Quality, and IV.G, Noise). The project's traffic impacts with respect to the I-710 freeway are evaluated in Section IV.J, Transportation and Circulation, of this Draft EIR. The Corridor Study includes no policies that would be directly applicable to this Land Use analysis.

(c) SCAQMD Air Quality Management Plan

The Southern California Air Quality Management District (SCAQMD) is responsible for bringing air quality in the South Coast Air Basin (Basin) into conformity with federal and State air pollution standards. SCAQMD is also responsible for monitoring ambient air pollution levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and State standards. SCAQMD's Air Quality Management Plan (AQMP), last amended in 2007, presents strategies for achieving the air quality planning goals set forth in the Federal and California Clean Air Acts (CAA), including a comprehensive list of pollution control measures aimed at reducing emissions. Further discussion of the AQMP can be found in Section IV.B, Air Quality, of this Draft EIR.

(d) MTA Congestion Management Program

The Los Angeles County Metropolitan Transportation Authority (Metro) administers the CMP, a State-mandated program designed to provide comprehensive long-range traffic planning on a regional basis. The CMP, revised in 2004, includes a hierarchy of highways and roadways

[2] *Gateway City Council of Governments, I-710/Major Corridor Study, page 7 (August 2004).*

with minimum level of service standards, transit standards, a trip reduction and travel demand management Element, a program to analyze the impacts of local land use decisions on the regional transportation system, a seven-year capital improvement program, and a county-wide computer model used to evaluate traffic congestion and recommend relief strategies and actions. CMP guidelines specify that those freeway segments to which a project could add 150 or more trips in each direction during the peak hours be evaluated. The guidelines also require evaluation of designated CMP roadway intersections to which a project could add 50 or more trips during either peak hour. The CMP is discussed further in Section IV.J, Transportation and Circulation, of this Draft EIR.

(3) State Plans, Policies, and Regulations

(a) California Department of Transportation, Division of Aeronautics

The California Department of Transportation (Caltrans)'s Division of Aeronautics (Division) regulates airport and heliport operations within the State of California. The State Aeronautics Act, Public Utilities Code (PUC) section 21001 et seq., is the foundation for the Department's aviation policies. The Division issues permits for and annually inspects hospital heliports and public-use airports, makes recommendations regarding proposed school sites within two miles of an airport runway, and authorizes helicopter landing sites at or near schools. Aviation system planning provides for the integration of aviation into transportation system planning on a regional, statewide, and national basis. The Division of Aeronautics administers noise regulation and land use planning laws that foster compatible land use around airports and encourages environmental mitigation measures to lessen noise, air pollution, and other impacts caused by aviation. The Division of Aeronautics also provides grants and loans for safety, maintenance and capital improvement projects at airports. The Division also implements applicable regulations of the Federal Aviation Administration for airports and heliports within the State, as discussed below.

(4) Federal Plans, Policies, and Regulations

(a) Federal Aviation Administration

The Federal Aviation Administration (FAA) has primary authority regarding regulation of airport operations and airport safety. Specifically, the FAA is charged with the following:

1. Controlling all of the nation's airspace;

2. Operating the Air Traffic Control system;

3. Developing and enforcing certification standards for all aircraft, pilots, flight crews and mechanics;

4. Administering an ongoing aviation safety program;

5. Developing standards for the construction of airports and heliports; and

6. Inspecting Commercial Service airports to ensure compliance with FAA safety regulations.

Regarding development in proximity to airports and heliports, a Notice of Proposed Construction or Alteration (Form 7460-1) is required by the FAA to be filed in accordance with Federal Aviation Regulation Part 77 "Objects Affecting Navigable Airspace" for development projects meeting the following criteria:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration
    - within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet;
    - within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet;
    - within 5,000 ft of a public use heliport which exceeds a 25:1 surface;
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards; or
- When requested by the FAA.

3. ENVIRONMENTAL IMPACTS

a. Methodology

The analysis of potential land use impacts considers consistency of the project with adopted plans, policies, and ordinances that regulate land use on the project site, as well as the compatibility of proposed uses with surrounding land uses. The determination of consistency with applicable land use policies and ordinances is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines Section 15125(d) requires that an EIR discuss inconsistencies

with applicable plans that the decision-makers should address. Evaluations are made as to whether a project is inconsistent with such plans. Projects are considered consistent with General Plan provisions and general SCAG policies if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. Impacts on the environment pursuant to CEQA ordinarily focus on changes in the physical environment. In itself, an inconsistency between a project and a plan is a policy or legal determination rather than a physical impact on the environment. However, where a plan is adopted for the purpose of avoiding or mitigating a physical impact on the environment, an inconsistency may be evidence that the project may result in a significant effect on the environment.[3]

The intent of the compatibility analysis is to determine whether the project would be compatible in relation to use, size, intensity, density, scale, and other physical and operational factors. The analysis is intended to determine the potential for the project to substantially and adversely change the existing relationships between numerous land uses or properties in a community that would adversely alter a community through ongoing disruption, division, or isolation. The compatibility analysis is based on aerial photography, land use maps, and field surveys in which surrounding uses were identified and characterized. As such, the analysis addresses general land use relationships and urban form, based on a comparison of land use relationships with the implementation of the proposed project to those occurring under existing conditions.

b. Thresholds of Significance

For the purposes of this analysis, the project is considered to have a significant land use consistency and/or compatibility impact if:

- The project were found to be in substantial conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;
- The project were found to be in substantial non-conformance with the applicable goals, objectives, and requirements of the City of Long Beach General Plan, Local Coastal Program, Strategic Plan 2010, Gateway Cities Council of Governments , and Southern California Association of Governments;

[3] *Stephen L. Kosta and Michael H. Zischke, Practice Under the California Environmental Quality Act, Continuing Education of the Bar, Chapter 12, Section 12.36, p. 611-612, October 2006.*

- The project were found to result in substantial conflicts with surrounding land uses due to an incompatible interface between such uses and the physical and/or operational characteristics of the proposed uses.

c. Project Design Features

As described in more detail in Section II, Project Description, the project comprises a mix of high-rise residential, office, and retail uses; open space; and parking. The project would be developed as a cluster of four high-rise buildings within three Parcels and three corresponding development phases. Under the Residential Option or either of the Hotel Options, the project would replace approximately 294,003 square feet of office and retail floor area with 340,000 square feet of office space and up to 28,000 square feet of retail space. Existing uses are located in three office buildings, ranging in heights from 2, 6, and 14 stories, respectively. The Residential Option would also provide 1,370 residential condominiums. Under this option, the project would include two residential towers at 40 and 32 stories in height, respectively, a 19-story office tower, and a 34-story office/residential mixed-use tower. Under both of the project's Hotel Options, the project would provide 1,110 residential condominiums and a 400-room hotel. Under Hotel Option A, the project would include a 40-story residential tower, a 27-story residential/hotel tower (the first 15 floors of which would be hotel rooms, and the upper 12 floors would be residential condominiums), a 19-story office tower, and a 40-story office/residential tower (the first five floors comprising office space and upper 35 floors residential condominiums). Under Hotel Option B, the project would include a 24-story residential tower, a 36-story residential/hotel tower (the first 15 floors of which would be hotel rooms, and the upper 21 floors would be residential condominiums), a 19-story office tower, and a 40-story office/residential tower (the first five floors comprising office space and upper 35 floors residential condominiums).

The project would be served by four driveways, including two driveways on Golden Shore, a driveway on the southern edge of the project site immediately west of Golden Shore, and a driveway on Seaside Way. The Residential Option would provide 3,355 parking spaces and both the Hotel Options would provide 3,430 parking spaces. All parking would be enclosed, with the exception of ten surface parking spaces on the plaza level of the western portion of the project site under the Residential Option and Hotel Option B.

The proposed project would be constructed in three phases, which correspond to the project site's three parcels: (1) Parcel 1, which consists of the 19-story office tower located immediately west of Golden Shore and south of Ocean Boulevard; (2) Parcel 2,, which comprises the two residential (or residential/hotel) towers along Shoreline Drive; and (3) Parcel 3, which includes the mixed-use office/residential tower east of Golden Shore. Existing

development totaling 294,003 square feet of office and retail floor area would be removed as part of the project.

The project would include the amendment of the Downtown Shoreline Development Plan (PD-6), Subarea 1, which specifically reflects the current buildout of the project site and the amendment of the Long Beach LCP, which is patterned on the land use delineated in PD-6. The project's development plans would also be submitted to the Planning Department for Site Plan Review, as required under PD-6.

A more detailed discussion of project features with respect to land use requirements is provided in the comparison of the project with the applicable goals, objectives, and policies of adopted local and regional land use plans (see Subsection 3.d.(2), below).

d. Project Impact Analysis

(1) Land Use Compatibility

Land use compatibility addresses whether the project would be compatible in terms of use, size, intensity, density, and scale with surrounding uses.

(a) Compatibility of Scale

As previously discussed, surrounding uses include Santa Cruz Park directly to the north across Ocean Boulevard, the 15-story Hilton Hotel and the 27-story One World Trade Center directly to the northwest across Ocean Boulevard; the twin, 13-story Arco Center towers directly to the east within a connected open plaza with the eastern portion of the project site; Shoreline Drive and Seaside Way to the south, the I-710 freeway and Los Angeles River to the west. In this area, Ocean Boulevard is characterized by the greatest concentration of the city's high-rise buildings, with the One World Trade Center representing the tallest of the existing towers. In addition, the area along the north side of Ocean Boulevard, between Golden Avenue and Alamitos Avenue is designated as having an unlimited building height under PD-30. Therefore the project would be considered compatible in scale with development at the north side of Ocean Boulevard. In addition, the project would not present an issue of scale compatibility with Santa Cruz Park, since it does not contain any permanent habitable structures.

The 27-story One World Trade Center is currently the highest building along Ocean Boulevard. However, several buildings in the proposed project would be generally higher than Ocean Boulevard's high rise buildings, including the One World Trade Center. However, the location of the project at the west edge of the City's high-rise strip and the fact that no further

high-rise development could occur to the north, west, and south of the project site, due to the freeway and the river to the west, Shoreline Drive and the shoreline to the south, and Santa Cruz Park to the north, the project's cluster of varying height towers would create a defining edge to Long Beach's downtown high-rise strip. In this manner, the project would complement the scale of existing development along Ocean Boulevard and in downtown Long Beach.

The project's 34-story (Residential Option) or 40-story (Hotel Options) mixed-use office/residential tower in Parcel 3 in the eastern portion of the project site would be adjacent to the Arco Center's 13-story towers along the south side of Ocean Boulevard. Although the project's tower would be considerably higher, the broad setbacks formed by the open plaza separating the project's towers from the Arco Center buildings, and the varied building angles in the eastern portion of the project site would ensure that the combination of the Arco Center buildings and proposed tower would form a cluster of well defined, separate structures as viewed from adjacent public streets and the coast. Therefore, the project would not create a disruption of use or division as a result of the difference in scale between the proposed development in Parcel 3 and the Arco Center.

The contrast of the project with the flat harbor and the massive cranes in the Port, located to the west of the Los Angeles River, would complement the bay and the scale and character of the Port. Good Sam's recreational vehicle (RV) park is located to the south of the western portion of the project site and separated from the project by Shoreline Drive. The RV park does not contain permanent habitable structures or development. Due to the broad separation created by Shoreline Drive, the RV park would not be affected by the scale of the project in a manner that would divide or disrupt the operation of this existing use. A large surface parking lot and the six-lane Shoreline Drive right-of-way separate the six-story State University Chancellor's office to the south from the project site. The broad separation between this use and the project site created by the Shoreline Drive right-of-way and the surface parking lot project would ensure that the project would not disrupt the function of the Chancellor's office due to incompatibility of scale. As the project would complement and define the existing high-rise development of the area, it is considered compatible in scale with existing development.

(b) Compatibility of Use

The project would be a mixed-use development with high-rise office and residential towers. As noted, the Residential Option would consist of a mix of office/retail/ and residential uses and both of the Hotel Options would consist of office/retail, residential, and hotel uses. As noted, the project site is currently developed with three buildings containing approximately 294,003 square feet of office and retail uses. The Arco Center, comprising two 13-story office towers, is located adjacent to the project site to the east. The Arco Center buildings (200 and 300 Oceangate) and are oriented to Ocean Boulevard, with parking located along the Arco Center's

Seaside Way frontage. The project's office and residential tower, located within Parcel 3 in the eastern portion of the project site, would adjoin the Arco Center plaza along its Ocean Boulevard frontage and, thus, would be compatible with the Arco Center's office uses along this primary street. In addition, the project's office tower, located at the corner of Golden Shore and Ocean Boulevard in the western portion of the project site, would be developed with offices and, as such, would continue the commercial character of the existing Oceangate development along Ocean Boulevard. The project would also be consistent with the commercial character of the Hilton Hotel and the One World Trade Center to the northeast of the project site (east of Golden Avenue), which also front on Ocean Boulevard.

High-rise residential buildings are located to the east of the Arco Center, east of Queens Way, and comprise the predominant land use along the south side of Ocean Boulevard, between Queens Way, one block to the east, and Pine Avenue. As with the project site, these residential parcels are located in the strip between Ocean Boulevard and Seaside Way. This area is designated as PD-6, Subarea 4, which allows high-density residential development, office, retail, hotel, restaurant, personal services, and entertainment uses. The proposed project would be compatible with the high-density residential towers along Ocean Boulevard and with permitted land uses within Subarea 4 to the east.

The project would be separated from land used to the west by Shoreline Drive, the Los Angeles River, and the I-710 freeway, and thus would not have any land use compatibility issues with uses to the west. The project would be separated from land uses to the south by Shoreline Drive, a six-lane divided highway. The project would not be compatible with the recreational use (RV park) located to the south Shoreline Drive; however, as this use is separated from the project site by the Shoreline Drive right-of-way, the project would not create an incompatibility of use that would impact the current operation of the RV park. The State University Chancellor's office is located to the south of the eastern portion of the project site, south of Shoreline Drive. As the Chancellor's constitutes an office use, it would be consistent with the project's commercial component. The project would not disrupt the operation of existing surrounding land uses in that area, and therefore, is concluded to be consistent with existing land uses.

(2) Regulatory Framework

(a) City of Long Beach General Plan

(i) Consistency with the Goals and Objectives of the Land Use Element

The following discusses the project's consistency with the applicable goals and objectives set forth in the General Plan Land Use Element, which provides operational objectives

applicable to new development. Issues identified under the Land Use Element include managed growth, economic development, downtown revitalization, new housing construction, affordable housing, and functional transportation. It is noted, however, that the goals and objectives of the Land Use Element are intended to set a course for the City through 2000. As the project is expected to begin construction in mid-2011, with completion not expected prior to 2018, the statistical standards under the Land Use Element are not applicable to the proposed project.

Managed Growth

According to the General Plan, the concept of managed growth is the underlying goal upon which the entire Land use Element of the Plan is based. The Land Use Element recognizes that little vacant land remains to be developed and that growth will require recycling and increased density. In accepting increased growth, the goal of the Land Use Element is to guide growth that would have an overall beneficial impact on the City's quality of life. According to the Land Use element, quality of life is multi-faceted and complex, representing a balance between the friendliness and tranquility of a small town life and the excitement and opportunity of a big city economy. The Land Use Element also recognizes that richness can be added to a community through the preservation of significant historical and cultural places and buildings, recognizing that the mix of old and new structures helps establish a sense of place with which people can identify. In addition, the Land Use Element states that arts and culture can flourish by encouraging active street level uses, pleasant pedestrian routes, and special activities combining public art and permanent cultural facilities. The Element recognizes that to achieve the increase in needed housing ". . . new housing must be concentrated around Downtown and the other economic activity nodes of the City, and along some of the principal streets which connect them."[4]

The Golden Shore Master Plan would be consistent with this objective in that it would have an overall beneficial impact on the City's quality of life. As suggested by this objective, the project would be located within an existing downtown activity node and along a principal street of the City. The project would require the recycling of a developed site that is not characterized as historically or culturally significant and, therefore, would not impact any significant historical or cultural place or building. The project would provide a mix of high-density residential, retail, and office uses, or under either of the Hotel Options, a mix of hotel, high-density residential, retail, and office uses. Retail uses would be located along the eastern portion of the project site's Ocean Boulevard frontage and, thus, contribute to an active street front at that location. The interaction between the project's residents and the broad range of amenities within walking distance, including retail uses, restaurants, services, entertainment,

[4] *City of Long Beach General Plan, Land Use Element, pages 19-21 (July 1, 1989, revised April 1997).*

recreational open space, as well as shuttle and transit services, would contribute to a sense of community, as well as generate a sense of excitement and opportunity. The pleasant pedestrian environment created by the landscaped public park along Ocean Boulevard, and direct pedestrian access to the project site from Ocean Boulevard and Golden Shore, would enhance pedestrian activity in this area. In addition, the project's distinctive, landmark towers and high quality design would complement downtown Long Beach's vibrant and architecturally interesting identity and, thereby, contribute to the City's art and culture.

Economic Development

This Land Use objective states that Long Beach will pursue economic development, with the understanding that such development is closely tied to international trade. According to the Land Use Element, economic development would be predominantly concentrated around the Downtown Shoreline. This objective states that the primary reasons for fostering such economic development are to create employment opportunities for residents and tax revenue for the City. The objective indicates that these ends should not at the expense of environmental quality with regard to air and water pollution, industrial hazards, and unmitigated traffic impacts. The objective seeks a balance of jobs and housing to reduce home-to-work travel and regional benefits with respect to air pollution, freeway congestion, and energy consumption.[5]

The Golden Shore Master Plan would support the objective to concentrate new economic development in the Downtown Shoreline. The project would add to the City's office/business floor area and, in turn, incrementally increase the Downtown Shorelines' employment base. If one of the Hotel Options were developed, it would further enhance economic development by providing additional accommodations for the City's business visitors. The project would also support this objective by providing a mix of high-density residential and commercial uses. The project's combined residential and commercial components would result in a greater balance between housing and employment within a high employment area. In accordance with this objective, the location of residential and commercial uses within close proximity would potentially reduce the City's home-to-work travel distances and generate regional benefits with respect to air pollution, freeway congestion, and energy consumption.

Downtown Revitalization

The intent of this Land Use objective is to build the downtown into a multipurpose activity center of regional significance, emphasizing a quality physical environment, a pedestrian focus, and a wide variety of activities and architectural types. The Land Use Element states that

[5] *Op. Cit., Land Use Element, pages 21-22.*

in order to achieve this objective, increased attention must be given to retail, entertainment, and residential uses in and around downtown. The Land Use Element also states that care must be taken in recycling in order to spare historic structures and to preserve the City's heritage for future generations.[6]

The Golden Shore Master Plan would be consistent with this objective in that it would incrementally increase both residential and retail uses within the downtown area. The mixed-use character of the project; the introduction of residential uses into a downtown area in which a broad range of retail, services, entertainment, restaurant, and recreational uses are within walking distance; and park dedication and enhanced landscaping along the Ocean Boulevard frontage north of Parcel 3 would enhance the pedestrian environment. The architectural quality and distinctive towers making up the project would support the City's emphasis on a quality physical environment. In addition, as the project site is entirely developed with recent buildings that have no historical or architectural significance, recycling the project site would not cause the loss of any historically or culturally important structures.

New Housing Construction

This objective supports the development of new housing units and states that the Land Use Element must provide capacity for new residential units.[7] (Refer to Section IV.G, Population, Housing, and Employment for a discussion regarding current housing policies.)

The Golden Shore Master Plan would be consistent with this objective in that it would increase the City's housing stock. The Residential Option would provide residential 1,370 units and both of the Hotel Options would provide 1,110 residential units. Proposed residential development would be high-quality and occur within an existing developed site and as such, would upgrade the City's housing without consuming the limited supply of vacant land.

Functional Transportation

This Land Use objective specifies that Long Beach will maintain or improve the current ability to move people and goods to and from development centers while preserving and protecting residential neighborhoods. According to the Land Use Element, the function of the Land Use Element in meeting this goal is to locate sufficient employment in the city in proximity to residential areas and to permit sufficient employment and residential densities along transit routes to encourage transit ridership. The objective also states that land uses along the City's

[6] *Op. Cit, Land Use Element, pages 17 and 22.*

[7] *Op. Cit, Land Use Element, page 22.*

most heavily travelled arterials should be able to tolerate high traffic, while not themselves generating frequent in and out traffic that would interrupt flows.

The Golden Shore Master Plan site is located along Ocean Boulevard, a major arterial served by secondary commercial streets. The project would be consistent with this objective in that it would not directly access local residential streets or cause direct traffic increases through established residential neighborhoods. As such, it would support policies to protect residential neighborhoods. The project would also support the goal to locate employment and residents in close proximity, by providing a mixed use that contains both employment and residential uses within a single site and by locating high-density residential uses within the downtown high employment area. Located adjacent to The Passport shuttle bus line, the project would also encourage transit ridership. The Passport provides free transportation throughout the downtown area between Golden Shore and Alamitos Avenue. The Passport travels along the Ocean Boulevard business strip, as well as providing direct access to the Catalina Express, the Downtown Marina, the Long Beach Aquarium, the Convention and Entertainment Canter, the Pike at Rainbow Harbor. It also directly accesses the Long Beach Transit Mall, a Metro Blue Line light rail station on Ocean Boulevard, ½ mile to the east of the project site. The Metro Blue Line light rail connects downtown Long Beach to downtown Los Angeles and provides access to a regional transit network. The Golden Shore Master Plan also meets the Functional Transportation objective in that it is able to tolerate a high traffic area and, thus, represents an appropriate land use along Ocean Boulevard and Shoreline Drive, both of which are major arterials. The project would have no direct access to Shoreline Drive or Ocean Boulevard, as all four proposed driveways would be accessed via either Golden Shore or Seaside Way.

(ii) Consistency with the Land Use Element Urban Design Component

The General Plan Land Use Element includes the several components, including Forecasts, Urban Design, Neighborhood, Activity Centers, and Traffic Corridors. The Forecasts Component is based on a target date of 2000 and does not apply to the project, which anticipates a build-out of approximately 2018. The Land Use Element Component is specifically applicable to the Golden Shore Master Plan.

The Urban Design Component of the Land Use Element evaluates the City's principal urban design features, including terrain, public open space areas, the downtown area, the port, and the Bay. The discussion of the downtown area states that the man-made forms of tall buildings and cranes contribute to an urban feeling and characterize an area that is active and exciting. The Land Use Element states that "tall buildings masses should be developed in appropriate locations…to help bring relief to the otherwise flat and characterless urban form of

much of the City and to help identify important activity nodes."[8] The Golden Shore Master Plan would be consistent with the Urban Design Component in that it is located within the downtown/port area and would comprise high quality, landmark buildings that would complement the existing character of the downtown area and the City.

According to the Urban Design Component, the most important activity areas in Long Beach are located in the Downtown-Port area, and around Alamitos Bay. Respectively, the Downtown/Port area is identified as "significant multi-purpose activity center." The Urban Design Component states that the downtown center combines employment, both industrial and office-commercial, with retail activities and recreation uses. According to the Urban Design Component, the downtown area is characterized by tall, dense buildings, a large population, and vehicular and pedestrian traffic. According to the Urban Design Component, the downtown/Port area plays a significant role in the economic and political life of the City and is the most important man-made urban design element of Long Beach. The Urban Design Component states that this is the "best site in Long Beach as viewed from its immediate environs because of the visual contrast between the Bay and beach". [9] The Golden Shore Master Plan would be consistent with the Urban Design Component in that it is located within the downtown/port area and would include tall, dense buildings, high-density residential uses and office-commercial uses. The project would contribute to high pedestrian activity and enhance the visual contrast between the bay and the City's edge. As the high-rise, high-density development pattern is characterized as the most important man-made urban design element in the city, the project would both support the Urban Design Component and benefit the urban character of the City.

The Urban Design Component also states that positive design steps should be taken to improve appearances along the streets, including large setbacks, more plant material, fewer curb cuts, and better building design and signage. According to the Urban Design Component, the downtown area is subject to the adopted Urban Design Plan that establishes respective setback, landscape, and design criteria. The project's high quality architectural design and landmark towers, streetscape, and dedicated public park within a 70-foot landscaped setback along the eastern portion of the project site would enhance the street front and support the General Plan's urban design policies. As with all development in PD-6, the project would be subject to Site Plan Review in which the City's specific design standards would be implemented.

With respect to high-rise development, the Urban Design Component states that clustering is a better response to the limited market than long strips of high-rises.[10] The project

[8] *Op. Cit, Land Use Element, pages 37-38.*

[9] *Op. Cit, Land Use Element, page 39.*

[10] *Op. Cit., Land Use Element, pages 38-42*

would be consistent with urban design policies that encourage clustering, as the development would occur in a grouping of five distinctive high rise buildings along both the Ocean Boulevard and Shoreline Drive frontages.

Urban Design Component also discusses the effects of growth on the arterial roadway system and states that recycled land uses should not generate more traffic or friction. It lists several streets of concern; however, these do not include Ocean Boulevard, Shoreline Drive, Golden Shore, or Seaside Way, which adjoin the Golden Shore Master Plan site.[11] The project's access design would be consistent with the Urban Design Component policies regarding the arterial roadway system. The project site adjoins two major arterials: Shoreline Drive and Ocean Boulevard. The site is also served by two local streets: Golden Shore and Seaside Way. Access to the project would be via four driveways, two of which are on Golden Shore, one of which is on Seaside Way, and one of which is on the south side of the project site west of Golden Shore that is accessed via a below-grade driveway connecting to Seaside Way. The project would have no direct access to Shoreline Drive or Ocean Boulevard. As the project meets the urban design and traffic objectives of the Urban Design Component, it would be consistent with this plan.

(iii) Consistency with the General Plan Land Use Designation

The Land Use Element designates the majority of the Long Beach Downtown and Downtown Shoreline as LUD No. 7 (Mixed Use District). The purpose of the Mixed Use District is to carefully blend land use types to save time and energy in transportation and communication, to simplify and shorten transactions of goods and services, vitalize a site, and give more importance to the urban structure of the City. Clear incompatibilities among different types of land use are not permitted.[12] The Golden Shore project is consistent with LUD No. 7 since the project is a mixed-use development that includes a variety of office and retail commercial uses along with residential uses. These uses would be mutually compatible within the master plan and consistent with surrounding land uses. The Hotel Options would provide hotel uses in addition to high-density residential and office/retail uses.

In general, areas in the LUD No. 7 District are classified as multi-purpose activity centers. Such centers are regulated by an area-wide planned development plan and ordinance (such as PD-6). Land use controls and design and development standards for these areas are contained in the planned development plan/ordinance for each area. LUD No. 7 is intended for use in large, vital activity centers rather than strip development. The mixed-use designation

[11] *Op. Cit., Land Use Element, pages 43-44.*

[12] *Op. Cit,. Land Use Element, page 65.*

allows combinations of land uses; for example, employment centers, with retail and offices; higher density residences; visitor-serving facilities; personal and professional services; or recreational facilities. Under this designation, residential densities will vary according to the particular needs and characteristics of the district. In general, residential uses permitted in Urban High Density and High-Rise Residential Districts are permitted. One intention of this designation is to eliminate potential conflicts between widely different building types, heights, and densities, although "compatibility with" is not to be construed as "exactly the same." [13]

The proposed project would be consistent with the definition of "multi-purpose activity center" since it would combine compatible residential, office, and retail uses (or these uses with a hotel under the Hotel Options) in a high-intensity, high-density use. The Golden Shore Master Plan would meet the definition of multi-purpose use within the project itself and in the context of the surrounding environment. The project is directly across Ocean Boulevard from the One World Trade Center and adjacent to the Arco Center and other distinctive high-rise development. Existing high-rise residential buildings are located at south side of Ocean Boulevard, between Ocean Boulevard and Seaside Way, as is the proposed project. The project consists of a cluster of four high-rise towers ranging from 19- to 40 stories in height. Although the project's towers are similar in height or taller than existing nearby high-rises, its distinctive high-rise towers and architectural quality would further contribute to the regional center identity of the surrounding Downtown/Downtown Shoreline area. As the project would have similar building types, heights, and densities as surrounding uses, it would be compatible with the policies of the LUD No. 7 Mixed Use District. The discussion of the project's consistency with the policies of the Activity Center designation is provided in subsection (d), below.

(iv) Consistency with the Policies of the Downtown Regional Center Designation

The Downtown Regional Center includes the community to the north of Ocean Boulevard (Downtown), the community to the south of Ocean Boulevard (Downtown Shoreline) and the community to the west of the Los Angeles River (Port of Long Beach). Within the Regional Center, the project site is located in Subarea "B," which allows visitor-serving, entertainment, open space, offices, and high-density residential uses. The General Plan's policies with respect to the Downtown Regional Center constitute the direction of the General Plan for guiding the future development of the entire area surrounding the downtown proper. The project is compared to these policies, as applicable, in Table IV.F-1 on page IV.F-24. As

[13] *Op. Cit., Land Use Element, page 66.*

shown in Table IV.F-1, the project is substantially in conformance with the General Plan policies for the designated area.

(v) Consistency with the Long Beach Local Coastal Program

The project site is located within the coastal zone, which extends north to Ocean Boulevard in the project vicinity. Under the LCP, this area is designated as Downtown Shoreline, or "DS." The LCP is based on the current land use set forth in the Long Beach Downtown Shoreline Planned Development (PD-6). According to the LCP, the Downtown Shoreline is characterized by mid- to high-rise office and residential buildings and large scale public recreation and entertainment facilities. Under the Downtown Shore Policy Plan, the project site is located within the "West Beach" area. Permitted uses are listed as "Existing Uses to Remain."[14] However, the LCP describes the permitted uses between Seaside Way and Ocean Boulevard as commercial and residential. According to the LCP, these uses would support the downtown retail area and keep the shoreline area alive and active and, therefore, safe during business and non-business hours. In addition the LCP states that a large number of dwelling units to this area would make the amenities of the coastal zone available to more people; however the LCP cites the predominance of commercial uses in this strip between Long Beach Boulevard to the Los Angeles River (an area incorporating the project site).[15] The project would be consistent with the land use objective of the LCP, since it contains high-density residential and high-intensity commercial uses.

The LCP requires that parking shall be enclosed, except that new hotels may provide off-site parking within 600 feet of the hotel. All required parking shall be constructed concurrently with the hotel and not displace existing parking.[16] The project would meet the parking objectives of the LCP, in that all required parking would be enclosed (with the exception of ten surface spaces within Parcel 2 under the Residential Option and Hotel Option B) and would be located within the project site.

[14] *Long Beach Local Coastal Program, Table 1, Downtown Shoreline Policy Plan.*

[15] *Long Beach Local Coastal Program, page III-DS-29.*

[16] *Long Beach Local Coastal Program, page III-DS-30.*

Table IV.F-1

Comparison of the Project with Applicable Policies of the General Plan Land Use Element

Policy	Project Consistency Analysis
Long Beach will build its downtown into a multipurpose center of regional significance, with physical and functional integrity – offering a wide variety of activities which result in an overall environment that is attractive and exciting during both the daylight and evening hours.	**Consistent.** The project would contribute to the function of the downtown as a multipurpose center of regional significance, through its high quality, landmark architecture and high-density/intensity, mixed-use development. The interaction between the project's occupants, employees and visitors and the wide range of services and residential, retail, restaurant, entertainment, and recreational uses in the surrounding community within walking distance would enhance pedestrian activity and create an active evening as well as daytime environment.
Quality design and materials are of paramount importance in the downtown. Although the City encourages a wide variety of architectural styles, design quality must be demonstrated. Architectural continuity within the downtown shall be achieved through consistency in the quality of design, workmanship, and materials utilized. New buildings must respect and complement existing historic and significant structures.	**Consistent.** The project, as shown in Section II, Project Description, of this Draft EIR is distinguished by a superior architectural design and use of materials that would contribute to the landmark quality of the downtown environment. The project features a modern design that would provide architectural continuity with respect to the adjacent, modern Hilton Hotel, One World Trade Center and Arco Center high-rise buildings. No historic or culturally significant buildings are located on the project site or in the vicinity that would be affected by the proposed development.
Long Beach accepts the population growth anticipated in the downtown and supports the development of more park/recreation open space, new quality residential units, added commercial/retail goods and services, and additional space for educational facilities required to support a growing downtown population.	**Consistent.** The project comprises the type of mixed land use envisioned under the General Plan land use designation, including quality residential units and added commercial/retail goods.
Long Beach will create safe, attractive, and comfortable streetscapes emphasizing a pedestrian focus and quality physical environment. Long Beach will clearly define vehicular and pedestrian roles for each downtown street. Well-defined routes will create a clear, linkage pattern between the various activity centers of the downtown proper and the downtown shoreline. In addition, the City will implement specific traffic, transit, signage, street tree, landscaping and parking measures for the downtown.	**Consistent.** The project would contribute to the streetscape through a uniform landscape design and landscaping and other amenities within the dedicated park along the Ocean Boulevard street frontage. Retail uses within the proposed development and the introduction of a residential population would enhance the pedestrian environment and safety of the public streets. Distinctive towers and high quality construction would contribute to the quality of the physical environment in the downtown. Access to the site would be via side streets (Golden Shore and Seaside Way), to reduce conflicts between the project's traffic and pedestrians and existing travel lanes on the adjacent major arterial streets.

Source: PCR Services Corporation, 2009.

The LCP indicates that the Victory Park and Santa Cruz Strip Park has been dedicated or designated in perpetuity by City Ordinance as public parks. Under the LCP, no parkland in the Coastal Zone shall be committed to another use unless the City replace such parkland on an acre-by-acre basis within or adjacent to the Coastal Zone.[17] The project would be consistent with this objective in that the park designation along the project site's Ocean Boulevard frontage east of Golden Shore would be maintained for this purpose and improved in accordance with LCP requirements (see Section IV.H.4, Parks and Recreation, of this Draft EIR.)

The LCP was updated effective August 8, 1999 to incorporate the Downtown Shoreline Planned Development (PD-6). As the language in the LCP is identical to the language in the Downtown Shoreline Planned Development, the consistency of the project with this designation is discussed in Subsection d.2.(b), Long Beach Downtown Shoreline Planned Development, below. As with the Downtown Shoreline Planned Development, if the project is approved, an amendment of the LCP will be required to reflect the most current land use in PD-6, Subarea 1. The proposed amendment would be taken into consideration during Site Plan Review and would require City Council approval.

(vi) Consistency with Other General Plan Elements

(A discussion of the LCP Element is provided in Subsection (2), below. Other General Plan Elements, including Transportation, Air Quality, Noise, and Housing are addressed in the respective sections of this Draft EIR, including IV.B Air Quality, IV.G Noise, and IV.H, Population and Housing. IV.J, Transportation and Circulation,

(b) Long Beach Downtown Shoreline Planned Development

The Long Beach Downtown Shoreline Planned Development (PD-6) is intended to coordinate future public and private improvements in a mixed-use land concept. Due to high public interest in the Downtown Shoreline and for the purpose of maximizing public access, development in PD-6 is subject to the Planning Department Site Plan Review process. The project site is located in Subarea 1 of the Downtown Shoreline Planned Development and was formerly part of the "West Beach Redevelopment Subarea." Existing development occurred in accordance with binding Development Agreements between the Long Beach Redevelopment Agency and the original developers of the project site. However, as the redevelopment area has been completed, the West Beach Redevelopment Subarea is no longer applicable to parcels within Subarea 1 or to any future development of the site. Criteria established under the court

[17] *Long Beach Local Coastal Program, page III-DS, 34.*

decision, *Redevelopment Agency of the City of Long Beach, et al, v. California Coastal Commission*, also set forth specific development criteria that would no longer be applicable to future development in Subarea 1. As the proposed project would demolish and replace the existing three buildings and parking structures within the project site, it would not meet the existing binding agreements and, therefore, would require an amendment of PD-6, Subarea 1. PD-6 requires Site Plan Review for all projects for the purpose of meeting the following standards:

- A mixture of public and private uses of a variety of land use types;
- Significant public access through and around uses, whether public or private, and to coastal resources;
- An emphasis on uses of a recreational access nature;
- Strong land use interactions and access connections with the downtown;
- An urban park-like setting with a variety of strolling, bicycling, and active and passive recreational areas, interesting water features and abundant landscaping; and
- The highest quality of development.

The General Development and Use Standards set forth in the Downtown Shoreline Planned Development are intended to meet the these standards. The project is compared to the General Development and Use Standards in Table IV.F-2 on page IV.F-25. As shown in Table IV.F-2, the project would be substantially consistent with the Downtown Shoreline Planned Development standards, with the exception of specific standards regarding existing approved development in Subarea 1 and building setback from Ocean Boulevard in the western portion of the project site. These issues are discussed in greater detail in Table IV.F-2. A proposed amendment of PD-6 with respect to these development standards would be taken into consideration during Site Plan Review and require City Council approval. With City Council approval of an amendment, the project would be consistent with the land use standards.

Although not fully consistent with all the land use standards of the Downtown Shoreline Planned Development, the project's inconsistencies with building setback and specific development standards in Subarea 1 would not result in a significant physical impact. As previously discussed under Subsection 3.a, Methodology, above, impacts on the environment pursuant to CEQA ordinarily focus on changes in the physical environment. In itself, an inconsistency between a project and a plan is a policy or legal determination rather than a physical impact on the environment. Although an inconsistency may be evidence that the project

Table IV.F-2

Comparison of the Project with the Applicable General Development and Use Standards of the Downtown Shoreline Planned Development

Standard		Project Consistency Analysis
(a) Use. A mixture of uses shall be permitted. Specific uses or range of uses will be designated by subarea.		**Inconsistent.** The project would be consistent with mixture of allowable uses in PD-6. However, the project would remove the existing buildings, parking, and other uses within the project site, which are based on existing, binding development agreements between the Redevelopment Agency and the original developers of Subarea 1. Therefore, the project would not be consistent with the existing specific development standards within Subarea 1. A proposed amendment of PD-6 with respect to the specific development standards in Subarea 1 would be required, as discussed in Section II. Project Description, Subsection F, Project Approvals, of this Draft EIR. The proposed amendment would be taken into consideration during Site Plan Review, and evaluated relative to PD-6 development standards, and would require City Council approval. With City Council approval of an amendment of PD 6, Subarea 1, the project would be consistent with this land use policy.
(b) Access.		
	1. Primary vehicle access to all uses shall be limited to Seaside Way, Golden Avenue, Chestnut Place, Queen's Way, Pine Avenue, Locust Avenue, Elm Avenue, Linden Avenue, and Shoreline Drive, as appropriate.	**Consistent.** All access shall be via Golden Shore and Seaside Way. No direct access to Shoreline Drive or Ocean Boulevard would be provided.
	3. All subarea should contain public walkways, seating in landscaped areas and, whenever feasible, shoreline viewing areas as specified in the Subarea Standards. All areas shall be guaranteed public access through easements or deed restriction, or lease agreement provisions, wherever required as public walkways in this Plan.	**Consistent.** The project would provide seating, where appropriate in the dedicated park area on Ocean Boulevard. With the exception of the Golden Shore street corridor, no views currently exist across the project site at the street level and, as such, no public viewing areas will be needed. The dedicated park area, public sidewalks, and public streets, including Seaside Way and Golden Shore shall be maintained as public access areas.
	6. A Traffic and Parking Management Association shall be created to monitor traffic generation and parking demand in the Planned Development Area, and to implement specific parking management strategies and transportation demand management programs as needed. The goal of the parking management program shall be to provide adequate parking to support the development of a cost-effective manner, and to provide public access to the coast while providing some discouragement	**Consistent.** The project applicant would participate in all established parking management and traffic management associations, as required. Section IV.J, Traffic and Circulation, of this Draft EIR provides a detailed discussion of the project's specific parking and traffic demand programs, including mitigation measures to reduce the impact of project-related trips on local streets and intersections and upon the regional freeway network. The project is located on the City's downtown shuttle bus line on Golden Shore, and within a short

Table IV.F-2 (Continued)

Comparison of the Project with the Applicable General Development and Use Standards of the Downtown Shoreline Planned Development

Standard		Project Consistency Analysis
	of use of private automobiles over transit alternatives. The goal of the transportation demand management program shall be to minimize the negative impacts of the project-related trips on local streets and intersections and upon the regional freeway network; it shall consider measures such as providing no free on-site parking for employees and providing employees with free transit passes. All development within the project area shall be required to participate in the Association when it is formed.	distance of the Long Beach Transit Center (available by shuttle), which provides a regional transportation alternative.
(c) Building Design		
	1. All buildings shall be arranged on their sites so as to provide views between buildings, so as to avoid the impression of a wall of buildings, so as to minimize blocking shoreline views of other buildings, so as to entice pedestrians into the shoreline area.	**Consistent.** Existing scenic views across the project site from adjacent or nearby high-rise buildings, including west-facing views of the harbor from the Arco Center (located to the east of the project site) and south-west facing views of the harbor from the Hilton Hotel and One World Trade Center (located to north of Ocean Boulevard and to the east of Golden Avenue) would be partially obstructed by the new development. The project's four towers would be arranged in a variety of angles, with broad setbacks between buildings that would allow partial views harbor between the proposed buildings. In addition, as the project is located to the west of the Arco Center, Hilton Hotel, and One World Trade Center buildings, it would not obstruct views to the south of the bay or to the harbor to the south-southwest of the project site. The clustering of buildings and open space provided by the Golden Shore corridor and building setbacks, as well as the variety of building heights would avoid the appearance of a wall of buildings.
	2. The scale, heights, mass, location, and materials of all buildings shall contribute to their perception of the site and the shoreline area as a comprehensive, cohesive, and integrated entity. To assure such integrated development, no project shall be reviewed or approved without a Master Site Plan.	**Consistent**. The variety of building angles, shapes and heights among the project's four towers (ranging in height from 19 to 40 stories); high quality design and materials, and nearby harbor and river setting would contribute to contrast between the shoreline and built environment to create a dramatic and cohesive scenic vista. This dramatic contrast would be consistent with the General Plan Urban Design Component, which identifies the man-made environment created by the shoreline's tall buildings and the beach/harbor as the most important man-made urban design element of Long

Table IV.F-2 (Continued)

Comparison of the Project with the Applicable General Development and Use Standards of the Downtown Shoreline Planned Development

Standard		Project Consistency Analysis
		Beach and best site in Long Beach as viewed from its immediate environs.
	4. All new development between Ocean Boulevard and Seaside Way, above the Ocean Boulevard curb level shall be set back a minimum of eighty feet from the Ocean Boulevard curb line, as existing on July 1, 1989, or set back the width of the City park strip, whichever is greater.	**Inconsistent**. The project would incorporate the 70-foot width of the City park strip along the eastern portion of the project site, consistent with this standard. However, buildings along the western portion of the project site would be set back a maximum of approximately 55 and 35 feet, respectively, from the existing Ocean Boulevard curb. The easterly of the two buildings would be set back more than the westerly building. An amendment of PD-6 will be required to allow the reduced setback. Several factors support the reduced building setback west of Golden Avenue. As Ocean Boulevard approaches the bridge over Shoreline Drive and the Los Angeles River, it creates a gradient change between the western portion of the project site and the street. Due to this configuration, the park area along Ocean Boulevard terminates at Golden Shore on its west side. No buildings occupy the area at the north side of Ocean Boulevard west of Golden Shore (Santa Cruz Park) directly across Ocean Boulevard from the western portion of the project site and, as the western portion of the project site adjoins Shoreline Drive in the proximity to the Los Angeles River to the west, no buildings occupy the area to the west of the project site. Therefore, the west edge of the project site does not have the same physical continuity with existing uses along Ocean Boulevard, nor is subject the public park setback requirements for the City's park land along the south edge of Ocean Boulevard, as is the eastern portion of the project site. Moreover, the reduced street setback in the western portion of the project site would enable greater setbacks within the project's building cluster, thus enhancing respective views across the project site. A proposed amendment of PD-6 with respect to this development standard would be taken into consideration during Site Plan Review and require City Council approval. With the approval of the proposed amendment, the project would be consistent with the Ocean Boulevard setback requirements.

Table IV.F-2 (Continued)

Comparison of the Project with the Applicable General Development and Use Standards of the Downtown Shoreline Planned Development

Standard		Project Consistency Analysis
(d) Parking		
	1. Number of Spaces:	
	Residential Uses: Studio (no bedroom) - 1 Space/unit One or more bedrooms – 2 Spaces/unit	**Consistent.** See the discussion of the project's parking requirements in Section IV.J, Transportation and Circulation, of this Draft EIR.
	Guest Spaces: 1 space/6 units	**Consistent.** See the discussion of the project's parking requirements in Section IV. J, Transportation and Circulation, of this Draft EIR.
	Hotel Use: 0.75 spaces/room	**Consistent.** See the discussion of the project's parking requirements in Section IV. J, Transportation and Circulation, of this Draft EIR.
	Retail Use: 4 spaces/1,000 of useable floor area	**Consistent.** See the discussion of the project's parking requirements in Section IV. J, Transportation and Circulation, of this Draft EIR.
	Office Use: 3 spaces/1,000 sf of usable floor area	**Consistent.** See the discussion of the project's parking requirements in Section IV. J, Transportation and Circulation, of this Draft EIR.
	Whenever feasible, joint and shared use of parking facilities is encouraged. Office building parking shall be available for public use on weekends and evenings in order to meet peak parking demand for shoreline uses. Joint use parking shall follow the Urban Land Institute findings in their 1983 publication of "Shared Parking." Any joint or shared use parking shall be supported by a shared use parking plan.	**Consistent.** See the discussion of the project's parking requirements and potential shared parking plan in Section IV. J, Transportation and Circulation, of this Draft EIR.
	2. All parking structure roofs shall be attractively screened from the view of taller buildings and all parking structure roofs north of Seaside Way at or below Ocean Boulevard level shall be designed to carry landscaping, terracing, and/or facing these edges with other uses…Parking structures are encouraged to contain light wells, entry courtyards, and landscape wells in order to make their interior spaces attractive and to define and articulate auto arrival and pedestrian entrance to the buildings. For all new development between Ocean Boulevard and Seaside Way, all parking structures shall not exceed the height of Ocean Boulevard sidewalk grade adjacent to the site	**Consistent.** Parking for the proposed project would be located in subterranean structures, above-grade podiums, and in a bridge structure across Seaside Way. The exposed roof of the structure across Seaside Way and parking structure deck along Shoreline Drive would serve as landscaped open space and pool decks. Exposed parking structure frontages along Shoreline Drive would be landscaped and would include embedded townhome units. The central parking structure deck in the western portion of the project site would serve as the entrance courtyard for residential, hotel, retail, and office uses in that parcel. Above grade parking along Ocean Boulevard in the eastern portion of the project site would be located within the tower

Table IV.F-2 (Continued)

Comparison of the Project with the Applicable General Development and Use Standards of the Downtown Shoreline Planned Development

Standard		Project Consistency Analysis
	(parking structures may exceed Ocean Boulevard sidewalk grade if screened from Ocean Boulevard by a building or as otherwise specified by subarea). Landscape planters on top of parking structures may exceed Ocean Boulevard grade by three feet , provided that such planters are not located in view corridors or in the public park strip.	footprint and faced with an office/retail use at and above grade level. Driveway entrances would be landscaped. All parking along the Ocean Boulevard frontage would be screened behind tower development or would be located below the existing grade of Ocean Boulevard.
	3. Open Parking. No open parking shall be permitted at Ocean Boulevard grade. This does not prohibit vehicle drop off or automobile court areas where these areas are specifically permitted.	**Consistent**. The project would not provide any open parking the existing grade of Ocean Boulevard. An open automobile court area serving the western portion of the project site would be located above grade and landscaped.
	4. All parking designed and/or constructed for a specific use shall be made available to the general public and to other uses on a shared basis whenever parking spaces are not used by the specific use. The Traffic and Parking Management Association shall coordinate availability and use of such spaces.	**Consistent.** The project applicant would coordinate with the Traffic and Parking Management Association regarding the availability and use of any unused spaces.
(e) Landscaping. All open areas shall be landscaped in a park-like setting or designed as sophisticated urban courtyards and plazas. All courtyards and plaza areas shall be treated with upgraded materials, ample color and rich detailing.		**Consistent.** The project would landscape all open areas or provide sophisticated urban courtyards and plazas. As required, all courtyards and plaza areas would feature upgraded materials and ample color and detailing.
(f) Developer improvements and maintenance responsibility. All pedestrian and bicycle access ways shall be improved and maintained by the developer. All utilities, roadway improvements and traffic circulation improvements shall be provided to the satisfaction of the responsible City agencies. All new developments between Ocean Boulevard and Seaside Way shall landscape the Ocean Boulevard park strip adjoining the site and setback between the property line and the building in a landscape theme, with the landscape materials designated in the City landscape plan for this park. The basis for this plan shall be the landscape policies for the area adopted in the Local Coastal Plan. Approval of any development project shall be expressly conditioned upon payment, prior to building permit issuance or Certificate of Occupancy, as applicable to the individual fee, of all applicable impact fees, capacity		**Consistent.** The project applicant would provide and maintain pedestrian access ways throughout the project and along the adjacent sidewalks and park dedication. In addition, all utilities, roadway improvements and traffic circulation improvements would be provided to the satisfaction of the responsible City agencies (see Sections IV.J Transportation and Circulation and IV.K, Utilities, of this Draft EIR). The applicant would landscape the Ocean Boulevard park strip adjoining the eastern portion of the project site in a landscape theme, in accordance with an approved landscape plan (see Section IV.A, Aesthetics and Visual Resources). The project applicant would pay fees prior to building permit issuance or Certificate of Occupancy, as applicable to the individual fee, of all applicable impact fees, capacity charges, correction fees and other similar fees based upon additional facilities needed to

Table IV.F-2 (Continued)

Comparison of the Project with the Applicable General Development and Use Standards of the Downtown Shoreline Planned Development

Standard	Project Consistency Analysis
charges, correction fees and other similar fees based upon additional facilities needed to accommodate new development at established City service levels standards, including , but not limited to, sewer capacity charges, park fees, and transportation impact fees.	accommodate new development, as required by City regulation.
Source: PCR Services Corporation, 2009.	

may result in a significant effect on the environment, the project's inconsistencies would not result in significant direct physical impacts as a result of amended development standards.

(c) Long Beach Strategic Plan 2010

The Long Beach Strategic Plan 2010 ("Strategic Plan") sets for goals to address key issues that concern the City. These include a growing population, demand for homes, education, needed youth services, economic well-being and enhancing the environment. The project is compared to the applicable goals of the Long Beach Strategic Plan 2010 in Table IV.F-3 on page IV.F-31. Although the project would not be initiated until mid-2011 or completed until approximately 2018, as shown in Table IV.F-3, it would meet current Strategic Plan goals, including neighborhood enhancement goals, economic development goals, and sustainability goals.

(d) City of Long Beach Municipal Code

Land use throughout the City of Long Beach is regulated by the LBMC Zoning Regulations (Title 21). Section 21.37 establishes special districts, called Planned Development Districts. The project is located in Subarea 1 of the Downtown Shoreline Planned Development (PD-6). The consistency of the Golden Shore Master Plan with the LBMC would require the consistency of the project with the general development and use standards of PD-6 and specific development standards of Subarea 1. As previously discussed, with the exception of the building setback from Ocean Boulevard in the western portion of the project site, the project would be substantially consistent with PD-6's general development standards (see Table IV.F-2 on page IV.F-25). However, as the current specific development standards in Subarea 1 are based on prior development agreements between the Redevelopment Agency and the original developers

Table IV.F-3

Comparison of the Project with the Applicable Goals of the Long Beach Strategic Plan 2010

Goal		Project Consistency Analysis
Community of Neighborhoods Chapter		
	Goal 1: Build a strong network of healthy neighborhoods	**Consistent.** The proposed project would contribute to the identity of the downtown shoreline community as a mixed use area by adding to the downtown's mutually supporting services and high-density residential uses. In addition, the Hotel Options would provide a hotel that would further characterize the downtown as the center of high quality hotels for business and recreational visitors. The project's iconic tower architecture would also contribute to the downtown's image as a metropolitan center.
	Goal 2: Strengthen community leadership and collaboration and increase public participation	**Consistent.** The project would be located in the proximity of the Long Beach Civic Center in one of the most densely populated areas of the City. This locale would directly expose residents, and give easy access to, community activities and services. The formulation of residents' associations to manage the proposed high-density residential uses would encourage participation in civic issues related to the Golden Shore Master Plan, and may further encourage participation in the surrounding community and respective civic activities.
	Goal 3: Celebrate the diversity of our neighborhoods and residents, using arts and cultural programs to build mutual acceptance	**Consistent.** The project would contribute to the high density population in the Downtown Shoreline that represents a broad range of people from a variety of backgrounds. The public parks, promenades and other public facilities in the downtown, including the strip park along the eastern portion of the project site's Ocean Boulevard frontage, may be used to celebrate the diversity of the community's residents through arts and cultural programs, as well as draw the interest of other Long Beach neighborhoods.
	Goal 4: Support neighborhood efforts to create beauty and pride	**Consistent.** The project would support the beauty and pride of the downtown shoreline community with distinguished architectural design; landmark towers; high quality landscaping and streetscape.
	Goal 5: Improve the quality and availability of housing	**Consistent.** The project would provide high quality, high-density residential units that would increase the City's total housing stock, raise the quality of the City's housing, and increase the opportunity for home ownership in the city center.

Table IV.F-3

Comparison of the Project with the Applicable Goals of the Long Beach Strategic Plan 2010

Goal		Project Consistency Analysis
Economic Opportunity for All Chapter		
	Goal 1: Encourage business development based on our strengths	**Consistent:** Under both the Residential Option and either of the Hotel Options, the project would replace approximately 294,003 square feet of office uses with approximately 368,000 square feet of office/retail uses, representing a net increase of approximately 74,000 square feet of office/retail uses. In addition, either of the Hotel Options would provide a 400-room hotel. These uses respond to the business environment in Long Beach Downtown and the Port and support the goal to encourage business development based on the City's strengths
	Goal 2: Create a work force development plan to promote better jobs and wages.	**Consistent:** The project would increase job opportunities to the City. The project's office/retail uses would generate approximately 838 employment positions, compared to the existing approximately 694 employment positions, representing a net increase of 144 jobs. Under the Hotel Option, the project would result in a net increase of 645 employment positions (see Section IV.H, Population and Housing in this Draft EIR).
	Goal 3: Balance business growth and neighborhood needs	**Consistent:** As a mixed-use providing both high-density residential and office/retail uses, the project would balance business and residential growth. As indicated in the LCP, such mixed-use would represent a desirable land use balance within the Downtown Shoreline between Ocean Boulevard and Seaside Way. In addition, the project would be located within an existing, developed commercial site that would not encroach upon or diminish any existing residential neighborhoods.
	Goal 4: Encourage small business growth	**Consistent:** The project would increase floor area available for a variety of commercial uses that would encourage small business growth.
	Goal 5: Deliver needed business City services and infrastructure to businesses in the most cost-effective manner	**Consistent:** The delivery of infrastructure to businesses is incumbent upon the city and is not the sole responsibility of a single project. However, the project would support this goal by providing improvements to utility infrastructure and streets serving the project site and by increasing the City's tax base for public improvements.

Table IV.F-3

Comparison of the Project with the Applicable Goals of the Long Beach Strategic Plan 2010

Goal		Project Consistency Analysis
A Healthy Environment and a Sustainable City Chapter		
	Goal 1: Become a sustainable City	**Consistent**: The project would support sustainability by avoiding development on environmentally sensitive areas, by providing development within a existing urban site, and by using resources efficiently, including green development techniques.
	Goal 2: Enhance open space	**Consistent:** The project would concentrate high-density/high-intensity uses within an existing developed, commercial site and would not cause the removal or diminishment of open space. The project would also maintain and enhance the 70-foot strip park along the project's Ocean Boulevard frontage east of Golden Shore, thus, maintaining adjacent open space.
	Goal 3 Improve management of water resources and restore wetlands and riparian habitat	**Consistent:** The project would incorporate water management features, such as low flush fixtures and the use of recycled water for landscaping and any water features, as feasible. In addition, high density residential uses demand less water per capita than low-density residential development and, thus, support water conservation.
	Goal 4: Improve Air Quality	**Consistent:** The project would increase business and residential development in an area that is served by public transportation and a range of services and recreational opportunities in the surrounding Long Beach Downtown, within walking distance. In addition, the project would include a mix of residential and commercial uses (including a hotel under the Hotel Options), which would reduce vehicle trips through interaction between the project's residences and places of employment. The proximity of a residential population and services would reduce overall vehicle trips, thereby maximizing the development potential of the Downtown Shoreline while minimizing vehicle miles and respective air pollution (see Section IV.B, Air Quality, of this Draft EIR).

Source: PCR Services Corporation, 2009.

of the subject parcels, the project would not be consistent with the defined uses for Subarea 1. With approval of the proposed amendment to the Downtown Shoreline Planned Development, the project would be consistent with the LBMC's zoning requirements with respect to the Planned Development.

The LBMC also regulates uses and activities that are not specified under the Planned Development. These may include, but are not limited to, the sale of alcoholic beverages (Chapter 21.52), temporary uses (Chapter 21.53) residential density bonuses (Section 231.52.233), communication services or towers (Sections 21.45.115 and 21.52.110), and flower or newsstands (Section 21.45.135). The Golden Shore Master Plan project anticipates a range of office, retail, residential and, possibly, hotel uses; but, at this point, specific occupants and uses have not been determined and may not be determined until actual occupancy. As the implementation of the project would require an approved Planned Development to which the project must adhere, and the project must comply with the City's code regulations, the proposed project would not have a significant impact with respect to the LBMC's adopted lands use policies.

(e) SCAG Regional Comprehensive Plan, Regional Transportation Plan, and Growth Vision Report

Table IV.F-4 on page IV.F-35 summarizes the goals, policies and principles of SCAG's Regional Comprehensive Plan (RCP), the Regional Transportation Plan (RTP) and the Compass Growth Vision (CGV).that are applicable to the project and evaluates the consistency of the project' with these policies. As discussed in Table IV.F-4, the project would be consistent with SCAG guidelines in that its location and uses would contribute to land use patterns that support SCAG's goals, policies and principles. These include improvements in jobs/housing balance, densification along transit corridors with access to public transit, mixed-use development, and pedestrian access to the surrounding community.

(f) Airport Safety Regulations

As previously discussed, the Caltrans Division of Aeronautics oversees airport operation and safety regulations within the State of California, and implements applicable Federal Aviation Regulations of the FAA for California airports and heliports. The proposed project is located approximately four miles (20,000 feet) from the closest runway of the Long Beach Municipal Airport, and would include structures exceeding 200 feet in height. As such, the project applicant would be required to complete and file Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA to meet the requirements of Federal Aviation Regulation Part 77 "Objects Affecting Navigable Airspace." Filing of Form 7460-1 with the FAA, and compliance with any project-specific FAA requirements related to airport operations and safety, the proposed

Table IV.F-4

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
Regional Transportation Plan Goals		
RTP G1	Maximize mobility and accessibility for all people and goods in the region.	**Consistent.** The project would provide a high-density/intensity mixed use project adjacent to Ocean Boulevard, a major arterial, and the I-170 freeway. In addition to the surrounding network of streets and highways, the project site is served by public transportation. The Long Beach Transit Mall, a transit hub on the Los Angeles County Metro Blue Line, is located in downtown Long Beach approximately ½ mile to the east of the project site on Ocean Boulevard. The Metro Blue Line is a light rail transit system connecting downtown Long Beach to downtown Los Angeles. The Transit Mall also provides connection to Long Beach Transit's Line #111 to the Long Beach Airport and an array of buses, including the Long Beach Transit, Metro Local 60, Metro Express, LADOT Commuter Express, and Orange County Transportation Authority. Long Beach Transit also offers free shuttle buses in the downtown area, including the "The Passport," which serves Golden Shore adjacent to the project site. The project would add housing to a jobs rich area and would support land use patterns that help to lessen the vehicle miles traveled and therefore traffic congestion.
RTP G2	Ensure travel safety and reliability for all people and goods in the region.	**Consistent.** The proximity of surrounding roadways ensures the reliability of access. The project is designed to limit access to local, two-way streets, including Golden Shore and Seaside Way. One driveway serving a portion of the West Phase project would take access at Ocean Boulevard. However, this driveway would allow right-turns only and would provide a turnout so that entering and exiting vehicles would not immediately enter Ocean Boulevard's traffic lanes. Traffic mitigation measures to ensure the safety and reliability of streets impacted by the project would be provided (see Section IV. J, Transportation and Circulation).
RTP G3	Preserve and ensure a sustainable regional transportation system.	**Not Applicable.** This goal applies to operators of the regional transportation system.
RTP G4	Maximize the productivity of our transportation system.	**Consistent.** As described in response to RTP G1, above, the project location and characteristics contribute to land use patterns that reduce vehicle

Table IV.F-4 (Continued)

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
		miles traveled and, therefore, traffic congestion that would otherwise reduce the productivity of the transportation system.
RTP G5	Protect the environment, improve air quality and promote energy efficiency.	**Consistent.** In supporting land use patterns that lessen vehicle miles traveled, as described under RTP G1 above, the project supports reduced energy consumption and reduced air emissions. Further, the project would be designed to include Leadership in Energy and Environmental Design (LEED) features. LEED features would include energy-efficient buildings, pedestrian friendly design, and water conservation features. Landscaping and any water features incorporated in the project would utilize recycled water as feasible.
RTP G6	Encourage land use and growth patterns that complement our transportation investments and improves the cost-effectiveness of expenditures.	**Consistent.** As described in response to RTP G1, above, the project location and characteristics contribute to land use patterns that lessen vehicle miles traveled. In addition, the proposed project would intensify development within the I-710/Ocean Boulevard transportation node, and in close proximity to Metro's Blue Line rail. Intensification of development and growth in potential ridership would support the public's transportation investments.
RTP G7	Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	**Not Applicable.** This goal applies to system monitoring and planning activities that would be carried out by SCAG and/or transportation agencies.
Regional Transportation Plan Policies		
RTP P1	Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.	**Consistent.** This policy is directed toward SCAG activities pertaining to the implementation of its own policies and to agencies with jurisdiction over the management of transportation systems (e.g., Caltrans, MTA, City transportation departments, etc.). The performance standards set levels of service and/or improvements that can be used to monitor the quality of transportation systems (e.g., improve travel speeds or system performance cost per capita to a level that in better than that in a previous base year.) As the proposed project would not be responsible for

Table IV.F-4 (Continued)

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
		monitoring or measuring the performance of regional transportation, this policy is not directly applicable to the project. However, the policy is intended to encourage land use and transportation planning in a manner that would cause favorable outcomes for the performance indicators. The project's development characteristics are consistent with design principles that are considered to make positive contributions to the performance of the transportation system. For example, the project would provide multi-family housing units in a jobs rich area, providing workers the opportunity to live closer to their work place, and avoid long commutes that adversely affect the performance indicators. Further, the project would be constructed in an area of existing transportation infrastructure in which the city streets and transit would be maintained and operated. The project supports the use of alternative transportation modes such as transit and walking. To the extent that these modes are used by project residents or visitors, due to their immediate availability, the measured levels of the performance indicators would be improved.
RTP P2	Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system will be RTP priorities and will be balanced against the need for system expansion investments.	**Consistent.** This policy is directly applicable to transportation agencies responsible for the provision of transportation infrastructure. However, as the project is located within an existing freeway/major arterial, and transit corridor, it would support this policy in that it would not require the system expansion investments.
RTP P3	RTP land uses and growth strategies that differ from currently expected trends will require a collaborative implementation program that identifies required actions and policies by all affected agencies and sub regions.	**Consistent.** The Residential Option would provide 1,370 residential units and both of the Hotel Options would provide 1,110 residential units, which would not exceed SCAG's growth projections and would occur within a 2% Compass Blueprint Strategy Area. As the project would not differ from the RTP's land use and growth strategies, it would not collaborative implementation program or other measures.
RTP P4	HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy #1	**Consistent.** The project site is located in an area in which direct transit service is readily available. The proposed project would provide a greater number of residents with access to public transit. The project would not interfere with the efforts to support and encourage HOV gap closures and, as such, would not

Table IV.F-4 (Continued)

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
		conflict with this RTP policy.
RTP P5	Progress monitoring on all aspects of the Plan, including timely implementation of projects, programs, and strategies, will be an important and integral component of the Plan.	**Not Applicable.** This policy pertains to SCAG planning and monitoring activities. The project would not interfere with ability of SCAG to perform such monitoring.
Growth Vision Report		
GV P1	Principle 1: Improve mobility for all residents	**Consistent.** As described further in the Principle 1Sub-principles below, the project would support mobility improvement by increasing residential density in a highly accessible urban center with available public transit.
GV P1.1	Encourage transportation investments and land use decisions that are mutually supportive.	**Consistent.** The proposed mixed-use project is located within an existing, high-density urban area, easily accessible to the existing freeway system and to the Long Beach downtown and public transportation. The used within the mixed- use project would be mutually supportive, supportive of the surrounding downtown area, and supportive of existing transportation investments.
GV P1.2	Locate new housing near existing jobs and new jobs near existing housing.	**Consistent.** The Residential Option would provide 1,370 residential units and both of the Hotel Options would provide 1,110 residential units within the job-rich downtown Long Beach center. In addition, the project would include a mixed use/commercial component that would allow project residents and immediate neighbors an opportunity to work within walking distance.
GV P1.3	Encourage transit oriented development.	**Consistent.** The project would be located adjacent to a shuttle bus serving downtown Long Beach and within ½ mile of the Long Beach Transit Center which accommodates the Metro Rail Blue Line and local and regional bus lines. The proximity of the project to existing transit would encourage transit use.
GV P1.4	Promote a variety of travel choices	**Consistent.** The project would have a variety of travel choices since it is located in close proximity to the north-south I-710 freeway and Ocean Boulevard, a major east-west arterial. The project area is also served by the Metro Rail Blue Line and a broad range of local and regional bus lines. In addition, the project

Table IV.F-4 (Continued)

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
		is located within walking distance of the downtown Long Beach landing for the Catalina Express ferry to Catalina Island.
GV P2	Principle 2: Foster livability in all communities.	**Consistent.** The project would enhance landscaping and streetscape along Ocean Boulevard; provide high-quality landmark buildings, incorporate offices, services, and retail uses that would serve the surrounding community; and contribute to pedestrian activity between the project site and downtown Long Beach in manner that would foster the livability of the surrounding community.
GV P2.1	Promote infill development and redevelopment to revitalize existing communities.	**Consistent.** The project represents the upgrading of an existing developed site within downtown Long Beach.
GV P2.2	Promote developments, which provide a mix of uses.	**Consistent.** The project incorporates a mix of office, retail, services, and residential uses under the Residential Option. Under either of the Hotel Options, a hotel would be added to the mix of residential, office, and retail uses.
GV P2.3	Promote "people scaled," pedestrian friendly (walkable) communities.	**Consistent.** The project's pedestrian-friendly features include dedicated park along the Ocean Boulevard frontage east of Golden Shore, including street trees and other landscaping. In addition, the project's office and retail components would be oriented to the Ocean Boulevard street front to allow direct pedestrian access from the Ocean Boulevard sidewalk.
GV P2.4	Support the preservation of stable, single-family neighborhoods	**Consistent.** The project would locate a high-density/high-intensity project within an existing urban center. The location of new development in an established center would avoid redevelopment demand on existing stable, single-family neighborhoods.
GV P3	Principle 3:Enable prosperity for all people	**Consistent.** The development of a landmark quality, high-density/high-intensity project in downtown Long Beach would support prosperity by contributing to the growth and economic activity of the City. The project includes commercial uses that help to provide balanced development, and contribute to the City's economic base. .

Table IV.F-4 (Continued)

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
GV P3.1	Provide, in each community, a variety of housing types to meet the housing needs of all income levels.	**Consistent.** The Residential Option would provide 1,370 residential units and both of the Hotel Options would provide 1,110 residential units. The proposed residential uses would add to the City's existing housing stock and increase housing options for the residents or future residents of Long Beach.
GV P3.2	Support educational opportunities that promote balanced growth.	**Not Applicable.** This principle is aimed at activities beyond the scope of individual projects. Notwithstanding, it may be noted that the proposed project is cognizant of principles of balanced growth and has, thus, incorporated mixed-use into the project.
GV P3.3	Ensure environmental justice regardless of race, ethnicity or income class.	**Consistent.** Residency or other occupation or use of the project would not be prohibited due to race, ethnicity or income class. The project is located on an existing commercial site within an up-scale area of the City of Long Beach. Impacts generated by the project, such as traffic or noise, would not unfairly burden any less-advantaged community or remove any needed housing or services from any less-advantaged community or group.
GV P3.4	Support local and state fiscal policies that encourage balanced growth.	**Consistent.** The project would support balanced growth by incorporating a mix of uses and by increasing housing in the city's jobs-rich downtown and port areas.
GV P3.5	Encourage civic engagement.	**Consistent.** Although the project would not be able to directly encourage civic engagement, the project would provide a high-density residential use in close proximity to the City's civic center and respective services. The establishment of residents' associations to administer the operation of the condominiums within a high population center has the potential to encourage civic engagement beyond the development, itself..
GV P4	Principle 4: Promote sustainability for future generations.	**Consistent.** The project would support sustainability by avoiding development on environmentally sensitive areas, by providing development within a existing urban site, and by using resources efficiently, including green development techniques.

Table IV.F-4 (Continued)

Comparison of the Project with the Applicable Goals and Policies of SCAG's Regional Transportation Plan and Compass Growth Vision Report

No.	Policy	Project Consistency Analysis
GV P4.1	Preserve rural, agricultural, recreational and environmentally sensitive areas.	**Consistent.** The project would not be located within any rural, recreational or environmentally sensitive areas, nor cause the indirect development of such areas.
GV P4.2	Focus development in urban centers and existing cities.	**Consistent.** The project would redevelop a site within down Long Beach, an existing urban center.
GV P4.3	Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	**Consistent.** The mixed-use nature of the project, the project site's close proximity to the established downtown Long Beach, available public transit, and existing available infrastructure are features of the project that demonstrate the principles of smart growth and environmental sustainability.
GV P4.4	Utilize "green" development techniques.	**Consistent.** The project would be designed to include Leadership in Energy and Environmental Design (LEED) features, including energy-efficient buildings, pedestrian friendly design, and water conservation features. Water conservation features include a range of techniques that would further enhance site sustainability. Drought tolerant plants and indigenous species would be utilized. Landscaping and any water features incorporated in the project would utilize recycled water as feasible.

Source: PCR Services Corporation, 2009.

project would not conflict with Caltrans Division of Aeronautics or FAA plans, policies, rules, or regulations. As such, impacts would be less than significant in this regard.

The proposed structures would include rooftop helipads, which are required for emergency evacuation and safety purposes, but are not considered heliports, which are regulated by the Caltrans Division of Aeronautics. Because the emergency helipads would not be utilized as operating heliports, they are not subject to FAR Part 77, including applicable design and operational requirements. As such, impacts would be less than significant with regard to on-site helipads.

As discussed above, the proposed project is not located within the boundaries of an Airport Land Use Plan, and therefore no impacts related to conflicts with an applicable Airport Land Use Plan would occur.

(g) Conclusion Regarding Impacts on Regulatory Framework

Based on the analysis provided above and upon approval of the requested amendment of the Downtown Shoreline Planned Development (PD-6) and the LCP, an Element of the General Plan, the project would be in compliance with all applicable provisions of the General Plan, Downtown Shoreline Planned Development, LBMC Zoning Regulations (Title 21), Long Beach Strategic Plan 2010, and SCAG's 2008 RTP, SCAG's Compass Growth Vision Plan, and FAR Part 77. Therefore, the proposed project is considered consistent with the regulatory framework relative to land use.

4. CUMULATIVE IMPACTS

As indicated in Section III, of this Draft EIR, there are 19 related projects in the project study area. The related projects generally consist of infill development and redevelopment of existing uses within the built urban environment. As with the proposed project, the cumulative projects would be required to comply with relevant land use policies and regulations. Therefore, as the project would generally be consistent with applicable land use plans, the project would not incrementally contribute to cumulative inconsistencies with respect to land use plans. Accordingly, cumulative impacts on the regulatory framework would be less than significant.

There are numerous related projects located within a few blocks of the project site. These proposed developments comprise a variety of uses, including apartments, condominiums, office buildings, hotels, various retail uses, and a courthouse. The project vicinity is undergoing a transition as the City's residential population continues to increase. New developments are underway, effecting a widespread revitalization of the area and renovation of older structures, and much needed housing is being introduced. The project would be compatible with the various developments planned throughout the surrounding vicinity, as well as with existing uses in the immediate area. While the project in combination with the cumulative projects represents a continuing trend of infill development at increased densities, they also will serve to modernize the area and provide sufficient infrastructure and amenities to serve the growing population. Such projects are not expected to fundamentally alter the existing land use relationships in the community, but rather would concentrate development on particular sites and promote a synergy between existing and new uses. As such, the project would not contribute to an adverse cumulative impact with respect to land use compatibility or division of established communities.

5. MITIGATION MEASURES

The proposed project would not result in significant impacts associated with land use compatibility or consistency with regulatory land use plans and guidelines. Therefore, no mitigation measures would be required.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The project is considered compatible in scale and use with existing surrounding land uses and, therefore, would have no significant and unavoidable land use impacts with respect to land use compatibility. With the adoption of the proposed amendment of the Downtown Shoreline Planned Development (PD-6) and, respectively, the LCP, the proposed project would have no significant and unavoidable impacts relative to land use regulations.