PUBLIC REVIEW DRAFT

MAY 2013

Environmental Impact Report for the Remediation and Reuse of the Former Gun Range within Huntington Central Park

Prepared for:
City of Huntington Beach

Prepared by:
RBF Consulting

PUBLIC REVIEW DRAFT
ENVIRONMENTAL IMPACT REPORT

REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

SCH NO. 2009041150

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TABLE OF CONTENTS

Section 1.0: Introduction and Purpose 1-1
1.1 Purpose of the EIR 1-1
1.2 Compliance with CEQA 1-2
1.3 Previously-Prepared EIR 1-2
1.4 EIR Scoping Process 1-3
1.5 Format of the EIR 1-4
1.6 Responsible and Trustee Agencies 1-5
1.7 Incorporation by Reference 1-5

Section 2.0: Executive Summary 2-1
2.1 Project Location 2-1
2.2 Project Summary 2-1
2.3 Goals and Objectives 2-3
2.4 Environmental Issues/Mitigation Summary 2-3
2.5 Summary of Project Alternatives 2-17

Section 3.0: Project Description 3-1
3.1 Project Location 3-1
3.2 Project Setting 3-1
3.3 Background and History 3-7
3.4 Project Characteristics 3-7
3.5 Goals and Objectives 3-15
3.6 Construction Phasing 3-15
3.7 Agreements, Permits, and Approvals 3-15

Section 4.0: Basis of Cumulative Analysis 4-1

Section 5.0: Environmental Analysis 5-1
5.1 Hazards and Hazardous Materials 5.1-1
5.2 Geology and Soils 5.2-1
5.3 Air Quality 5.3-1
5.4 Greenhouse Gas Emissions 5.4-1
5.5 Noise 5.5-1
5.6 Biological Resources 5.6-1
5.7 Utilities 5.7-1
5.8 Traffic and Circulation 5.8-1

Section 6.0: Long-Term Implications of the Proposed Project 6-1
6.1 Irreversible Environmental Changes That Would Be Involved In the Proposed Action Should It Be Implemented 6-1
6.2 Growth-Inducing Impacts 6-1
6.3 Energy Conservation 6-6

Section 7.0: Alternatives to the Proposed Project 7-1
7.1 Summary of Project Objectives 7-2
7.2 Summary of Significant Impacts 7-2
7.3 Alternatives Considered But Not Carried Forward for Additional Analysis 7-3

7.4 "No Project" Alternative 7-4
7.5 "Limited Excavation" Alternative 7-6
7.6 "Environmentally Superior" Alternative 7-11

Section 8.0: Inventory of Mitigation Measures 8-1

Section 9.0: Level of Significance After Mitigation 9-1

Section 10.0: Effects Found Not To Be Significant 10-1

Section 11.0: Organizations and Persons Consulted 11-1

Section 12.0: Bibliography 12-1

Section 13.0: Appendices (under separate cover and contained on CD at end of section)

13.1 Initial Study/Notice of Preparation
13.2 Notice of Preparation Comment Letters
13.3 Revised Remedial Action Plan and Human Health Risk Assessment
13.4 Geotechnical and Geological Report
13.5 Air Quality and Greenhouse Gas Data
13.6 Noise Data
13.7 Biological Constraints Survey/Jurisdictional Delineation
13.8 Utilities Correspondence
13.9 Traffic Analysis
13.10 Landfill Gas Analysis

LIST OF EXHIBITS

Exhibit 3-1 Regional Vicinity Map 3-2

Exhibit 3-2 Site Vicinity Map 3-3

Exhibit 3-3 Aerial Photograph 3-4

Exhibit 3-4 On-Site Photographs 3-5

Exhibit 3-5 Remedial Action Plan Areas of Concern 3-6

Exhibit 3-6 Sample Locations 3-10

Exhibit 3-7 Conceptual Site Plan 3-14

Exhibit 4-1 Cumulative Projects Location Map 4-7

Exhibit 5.5-1 Sound Levels and Human Response 5.5-2

Exhibit 5.5-2 Noise Measurement Locations 5.5-8

Exhibit 5.8-1 Study Intersection Locations 5.8-2

LIST OF TABLES

Table 2-1 Comparison of Alternatives 2-19
Table 3-1 Potential On-Site Recreational Uses 3-13
Table 3-2 Anticipated Agreements, Permits, and Approvals 3-16
Table 4-1 Cumulative Projects List 4-2
Table 5.2-1 Subsurface Borings 5.2-2
Table 5.2-2 Major Historic Earthquakes 5.2-5
Table 5.3-1 Local Air Quality Levels 5.3-3
Table 5.3-2 Sensitive Receptors 5.3-6
Table 5.3-3 National and California Ambient Air Quality Standards 5.3-7
Table 5.3-4 SCAQMD Emission Thresholds 5.3-9
Table 5.3-5 Federal and State Carbon Monoxide Standards 5.3-10
Table 5.3-6 Short-Term (Year 1 Remediation) Emissions 5.3-12
Table 5.3-7 Short-Term (Years 2 and 3 Project Construction) Emissions 5.3-13
Table 5.3-8 Summary of Localized Significance of Construction Emissions 5.3-17
Table 5.3-9 Long-Term Operational Air Emissions 5.3-22
Table 5.3-10 Summary of Localized Significance of Operational Emissions 5.3-23
Table 5.3-11 Carbon Monoxide Levels at Surrounding Intersections 5.3-24
Table 5.4-1 Business As Usual Greenhouse Gas Emissions 5.4-12
Table 5.5-1 Noise Descriptors 5.5-3
Table 5.5-2 Sensitive Receptors 5.5-6
Table 5.5-3 Noise Measurements 5.5-7
Table 5.5-4 Existing Traffic Noise Levels 5.5-9
Table 5.5-5 Land Use Compatibility for Community Noise Environments 5.5-11
Table 5.5-6 City of Huntington Beach Noise Standards 5.5-12
Table 5.5-7 Maximum Noise Levels Generated by Construction Equipment 5.5-14

Table 5.5-8 Typical Vibration Levels for Construction Equipment 5.5-16

Table 5.5-9 Short-Range (2016) Noise Scenarios 5.5-20

Table 5.5-10 Long-Range (2030) Noise Scenarios 5.5-21

Table 5.5-11 Maximum Noise Levels Generated by Parking Lots 5.5-22

Table 5-5-12 Cumulative Noise Scenario 5.5-24

Table 5.8-1 Level of Service Criteria and Descriptions 5.8-3

Table 5.8-2 Existing Intersection Level of Service Summary 5.8-4

Table 5.8-3 Existing State Highway Intersection Level of Service Summary 5.8-5

Table 5.8-4 Trip Generation Rates for Proposed Project Land Uses 5.8-9

Table 5.8-5 Forecast Existing Plus Project Local Intersections LOS Summary 5.8-10

Table 5.8-6 Forecast Existing Plus Project State Highway Intersection LOS 5.8-11

Table 5.8-7 Short-Range Year 2016 Local Intersections LOS Summary 5.8-12

Table 5.8-8 Short-Range Year 2016 State Highway Intersection LOS Summary 5.8-12

Table 5.8-9 Long-Range Year 2030 Local Intersections LOS Summary 5.8-13

Table 5.8-10 Long-Range Year 2030 State Highway Intersection LOS Summary 5.8-15

Table 5-8-11 Remediation/Construction-Related Trip Generation 5.8-17

Table 5.8-12 Trip Generation Comparison 5.8-17

Table 6-1 Population Estimates 6-3

Table 6-2 Housing Estimates 6-4

Table 6-3 Construction Fuel Consumption 6-8

Table 6-4 Project Operational Fuel Consumption 6-9

Table 7-1 Short-Term (Year 1 Remediation) Emissions – Limited Excavation Alternative 7-8

Table 7-2 Comparison of Alternatives 7-11

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1.0 Introduction and Purpose

1.0 INTRODUCTION AND PURPOSE

1.1 PURPOSE OF THE EIR

The City of Huntington Beach (City) is the Lead Agency under the California Environmental Quality Act (CEQA), and has determined that an Environmental Impact Report (EIR) is required for the Remediation and Reuse of the Former Gun Range Within Huntington Central Park Project (project) (State Clearinghouse No. 2009041150). This EIR has been prepared in conformance with CEQA (California Public Resources Code [PRC] Section 21000 et seq.); *CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 et seq.); and the rules, regulations, and procedures for implementation of CEQA, as adopted by the City of Huntington Beach. The principle *CEQA Guidelines* sections governing content of this document are Sections 15120 through 15132 (Contents of Environmental Impact Reports) and Section 15161 (Project EIR).

The purpose of this EIR is to review the existing conditions, analyze potential environmental impacts, and identify feasible mitigation measures to reduce potentially significant effects of the proposed project, located within Huntington Central Park, southwest of the intersection of Gothard Street and Talbert Avenue, in the central portion of the City of Huntington Beach. For more detailed information regarding the proposal, refer to Section 3.0, *Project Description*.

This EIR addresses the environmental effects of the project, in accordance with Section 15161 of the *CEQA Guidelines*. In accordance with Section 15121 of the *CEQA Guidelines*, the main purposes of this EIR are to:

- Provide decision-makers and the public with specific information regarding the environmental effects associated with the proposed project;
- Identify ways to minimize the significant effects of the project; and
- Describe reasonable alternatives to the project.

Mitigation measures are provided that may be adopted as conditions of approval to minimize the significance of impacts resulting from the project. In addition, this EIR is the primary reference document in the formulation and implementation of a mitigation monitoring program for the proposed project.

The City of Huntington Beach (which has the principal responsibility of processing and approving the project) and other public (i.e., responsible and trustee) agencies, that may use this EIR in the decision-making or permit process, will consider the information in this EIR, along with other information that may be presented during the CEQA process. Environmental impacts are not always mitigatable to a level considered less than significant; in those cases, impacts are considered significant unavoidable impacts. In accordance with Section 15093(b) of the *CEQA Guidelines*, if a public agency approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the project, based on the Final EIR and any other information in the public record for the project. This is termed, per Section 15093 of the *CEQA Guidelines*, a "statement of overriding considerations."

This document analyzes the environmental effects of the project to the degree of specificity appropriate to the current proposed actions, as required by Section 15146 of the *CEQA Guidelines*. The analysis considers the activities associated with the project to determine the short-term and long-term effects associated with their implementation. This EIR discusses both the direct and indirect impacts of this project, as well as the cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

1.2 COMPLIANCE WITH CEQA

PUBLIC REVIEW OF DRAFT EIR

The Draft EIR is subject to a 45-day review period by responsible and trustee agencies and interested parties. Section 15087 of the *CEQA Guidelines* lists optional procedures for noticing, including publication in a newspaper, posting on-site, or mailing to owners of a property or properties contiguous to the site. In accordance with the provision of Sections 15085(a) and 15087(a)(1) of the *CEQA Guidelines*, as amended, the City of Huntington Beach, serving as the Lead Agency, will: 1) publish a Notice of Availability of a Draft EIR in a newspaper of general circulation for the project area; and 2) will prepare and transmit a Notice of Availability (NOA) and Notice of Completion (NOC) to the State Clearinghouse. Proof of publication is available at the offices of the Lead Agency.

Any public agency or members of the public desiring to comment on the Draft EIR must submit their comments in writing to the lead agency at the address indicated on the document's NOA/NOC prior to the end of the public review period. The Lead Agency will evaluate and prepare responses to all relevant written comments received from both citizens and public agencies during the public review period.

FINAL EIR

The Final EIR will consist of the Draft EIR, revisions to the Draft EIR (if any), and responses to all written comments addressing concerns raised in the comments of responsible agencies, the public, and any other reviewing parties. After the Final EIR is completed, and at least ten days prior to the certification hearing, a copy of the response to comments made by public agencies on the Draft EIR will be provided to the commenting agencies.

1.3 PREVIOUSLY-PREPARED EIR

The City originally initiated preparation of the EIR for the proposed project in 2001. An Initial Study (IS) and Notice of Preparation (NOP) were prepared for the project and the document was circulated for a 30-day public review period, from March 15 to April 16, 2001. A Draft EIR (State Clearinghouse No. 2009041150) was subsequently prepared and distributed for a 45-day public review period from March 27 to May 12, 2003. Shortly after publication of the Draft EIR, the project went on hold. No actions or approvals related to the project were considered or issued by the City.

The CEQA clearance process for the project was reinitiated by the City in 2009. Given the passage of time since preparation of the earlier Draft EIR in 2003, the City prepared an updated IS/NOP

(described in detail below) to solicit comments regarding the scope of the EIR. Alterations to the project (e.g., long-term recreational reuse options and hazardous materials remediation methodology) were also addressed as part of the 2009 IS/NOP and are considered within this Draft EIR. As such, information within this Draft EIR supersedes previous environmental documentation prepared by the City between 2001 and 2003.

1.4 EIR SCOPING PROCESS

In compliance with the *CEQA Guidelines*, the City of Huntington Beach has maximized opportunities for the public to participate in the environmental review process. During preparation of the Draft EIR, efforts were made to contact various Federal, State, regional, and local government agencies and other interested parties to solicit comments on the proposed project. This included the distribution of an IS/NOP to various responsible agencies, trustee agencies, and interested parties.

INITIAL STUDY/NOTICE OF PREPARATION

Pursuant to the provision of Section 15082 of the *CEQA Guidelines*, as amended, the City of Huntington Beach circulated an IS/NOP directly to public agencies (including the State Clearinghouse Office of Planning and Research), special districts, and members of the public who had requested such notice for a 30-day period. The IS/NOP was distributed on April 30, 2009, with the 30-day public review period concluding on June 1, 2009.

The purpose of the IS/NOP was to formally announce the preparation of a Draft EIR for the proposed project, and that, as the Lead Agency, the City was soliciting input regarding the scope and content of the environmental information to be included in the EIR. The IS/NOP provided preliminary information regarding the anticipated range of impacts to be analyzed within the EIR. The IS/NOP is provided as Appendix 13.1 of this EIR, and IS/NOP comments are provided as Appendix 13.2.

A total of 12 comment letters were received from State, regional, and local public agencies. A summary of environmental concerns expressed by these agencies is provided below. The section of the EIR where these comments are addressed is provided in parentheses.

- General availability of natural gas to new projects (Section 5.7, *Utilities*);
- Concern regarding not keeping a gun range at the project site for adult enjoyment (Section 3.0, *Project Description*);
- Impacts regarding project site proximity to six plugged and abandoned wells (Section 5.7, *Utilities*);
- Impacts to historical resources (Section 10.0, *Effects Found Not To Be Significant*);
- Air quality impacts related to all phases of the project (Section 5.3, *Air Quality*);
- Concern regarding the choice of recreational uses for the project site (Section 3.0, *Project Description*);

- Feasibility of recycling of on-site materials (Section 5.7, *Utilities*, and Section 5.1, *Hazards and Hazardous Materials*);

- Transportation-related impacts (Section 5.8, *Traffic and Circulation*);

- Impacts regarding on-site contamination and the remediation process (Section 5.1, *Hazards and Hazardous Materials*); and

- Water quality impacts (Section 10.0, *Effects Found Not To Be Significant*).

1.5 FORMAT OF THE EIR

The Draft EIR is organized into 13 sections, as follows:

- Section 1.0, *Introduction and Purpose*, provides CEQA compliance information.

- Section 2.0, *Executive Summary*, provides a brief project description and summary of the environmental impacts and mitigation measures.

- Section 3.0, *Project Description*, provides a detailed project description indicating project location, background, and history; project characteristics, phasing, and objectives; as well as associated discretionary actions required.

- Section 4.0, *Basis for the Cumulative Analysis*, describes the approach and methodology for the cumulative analysis.

- Section 5.0, *Environmental Analysis*, contains a detailed environmental analysis of the existing conditions, project impacts, recommended mitigation measures, and unavoidable adverse impacts for a number of environmental topic areas.

- Section 6.0, *Long-Term Implications of the Proposed Project*, discusses significant environmental changes that would be involved in the proposed action, should it be implemented. The project's growth-inducing impacts, including the potential for population growth, are also discussed.

- Section 7.0, *Alternatives to the Proposed Project*, describes a reasonable range of alternatives to the project or to the location of the project that could avoid or substantially lessen the significant impact of the project and still feasibly attain the basic project objectives.

- Section 8.0, *Inventory of Mitigation Measures*, lists mitigation measures proposed to minimize the significant impacts.

- Section 9.0, *Level of Significance After Mitigation*, describes those impacts that remain significant following mitigation.

- Section 10.0, *Effects Found Not to be Significant*, provides an explanation of potential impacts that have been determined not to be significant.

- Section 11.0, *Organizations and Persons Consulted*, identifies all Federal, State, or local agencies, other organizations, and individuals consulted.

- Section 12.0, *Bibliography*, identifies reference sources for the EIR.

- Section 13.0, *Appendices*, contains technical documentation for the project.

1.6 RESPONSIBLE AND TRUSTEE AGENCIES

Certain projects or actions undertaken by a Lead Agency require subsequent oversight, approvals, or permits from other public agencies in order to be implemented. Such other agencies are referred to as Responsible Agencies and Trustee Agencies. Pursuant to Sections 15381 and 15386 of the *CEQA Guidelines*, as amended, Responsible Agencies and Trustee Agencies are respectively defined as follows:

> *"Responsible Agency" means a public agency, which proposes to carry out or approve a project, for which [a] Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the Lead Agency, which have discretionary approval power over the project. (Section 15381)*
>
> *"Trustee Agency" means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the State of California. Trustee Agencies include; The California Department of Fish and Wildlife[1], The State Lands Commission; The State Department of Parks and Recreation and The University of California with regard to sites within the Natural Land and Water Reserves System. (Section 15386)*

Responsible and Trustee Agencies and other entities that may use this EIR in their decision-making process or for informational purposes include, but may not be limited to, the following:

- City of Huntington Beach;
- California Regional Water Quality Control Board (Santa Ana);
- State Water Resources Control Board;
- Orange County Health Care Agency; and
- South Coast Air Quality Management District.

1.7 INCORPORATION BY REFERENCE

Pertinent documents relating to this EIR have been cited in accordance with Section 15150 of the *CEQA Guidelines*, which encourages incorporation by reference as a means of reducing redundancy and length of environmental reports. The following documents are hereby incorporated by reference into this EIR. Information contained within these documents has been utilized for each section of this EIR. These documents are available for review at the City of Huntington Beach Planning and Building Department (located at 2000 Main Street, Huntington Beach, California).

[1] Note that the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) effective January 1, 2013.

- *City of Huntington Beach General Plan EIR*, (1995). This document addresses the potential environmental impacts associated with implementation of the *City of Huntington Beach Draft General Plan*. The purpose of this EIR is to identify the *Draft General Plan's* significant effects on the environment, to indicate the manner in which significant effects can be mitigated or avoided, and to identify alternatives to the proposed project which could avoid or reduce these impacts. The document also provides objective planning and environmental information for the City of Huntington Beach.

- *City of Huntington Beach General Plan*, (1996). The *City of Huntington Beach General Plan* is a policy planning document which provides the framework for management and utilization of the City's physical, economic and human resources. This document guides civic decisions regarding land use, the design and/or character of buildings and open spaces, the conservation of existing housing and the provision of new dwelling units, the provisions of supporting infrastructure and public services, the protection of environmental resources, the allocation of fiscal resources, and the protection of residents from natural and human-caused hazards.

- *City of Huntington Beach Municipal Code*. The *City of Huntington Beach Municipal Code* (*Municipal Code*) consists of all the regulatory and penal ordinances and administrative ordinances of the City of Huntington Beach. It is the method the City uses to implement control of land uses, in accordance with *General Plan* goals and policies. The City of Huntington Beach Zoning Ordinance, Titles 20 through 25, of the *Municipal Code* identifies land uses permitted and prohibited according to the zoning category of particular parcels. The Buildings and Construction Ordinance, Title 17, specifies rules and regulations for construction, alteration, and building for uses of human habitation.

- *Final Master Environmental Impact Report for Master Plan of Recreation Uses for Central Park*, City of Huntington Beach, California, (1999). The *Draft Master Environmental Impact Report for Master Plan of Recreation Uses for Central Park* assesses the environmental consequences of the *Master Plan of Recreation Uses for Huntington Central Park*. This *Master EIR* is intended to serve as an informational document regarding the objectives and components of the proposed project and potential environmental impacts, and to describe mitigation measures and reasonable alternatives to the project. Environmental review for the gun range site within this *Master EIR* was performed at a Program level.

2.0 Executive Summary

2.0 EXECUTIVE SUMMARY

2.1 PROJECT LOCATION

The proposed project site is approximately 4.91 acres in size and is located in the central portion of the City of Huntington Beach. The City of Huntington Beach is a coastal city along the Pacific Ocean in northwestern Orange County. It is surrounded by Westminster to the north, Fountain Valley to the northeast, Costa Mesa and Newport Beach to the east, and Seal Beach to the west. Los Angeles is located approximately 35 miles to the northwest while San Diego is 95 miles to the southeast.

Regional access to the site is provided via Interstate 405 (I-405) Freeway to the north, Beach Boulevard to the east, and Pacific Coast Highway to the south. Local streets surrounding the project site include Goldenwest Street to the west, Gothard Street to the east, Talbert Avenue to the north, and Ellis Avenue to the south. The proposed project site is a former gun range practice facility used by the Huntington Beach Police Officer's Association, other law enforcement agencies, and the general public. The site is within Huntington Central Park and is bordered by the Huntington Central Park Sports Complex to the north and west, Sully Miller Lake to the south, and the former Orange County Transfer Station (also known as the Orange County Gothard Street Refuse Disposal Station) to the east. The site is accessed from Gothard Street via a driveway owned by the County of Orange.

2.2 PROJECT SUMMARY

The proposed project consists of two primary components: 1) remediation of existing lead contamination at the facility due to historical gun range operations; and 2) long-term reuse of the site as a recreational component of Huntington Central Park. These two primary components of the proposed project are described in detail below.

SITE REMEDIATION

The Orange County Health Care Agency (OCHCA) has been identified as the lead agency for remediation of the gun range facility. The City initiated the lead remediation process in 2001 through initial soil sampling, analysis, and preparation of a Remedial Action Plan (RAP) by Hart Crowser, Inc. The soil sampling and analysis was subsequently updated in 2008 by Waterstone Environmental, Inc., who also prepared the *Revised Remedial Action Plan and Human Health Risk Assessment – Former Gun Range Site* (*Revised RAP*) in 2010. This document identifies existing conditions and primary concerns related to on-site lead contamination, a preferred method of remediation, regulatory thresholds to which the site must be remediated, and a range of safety measures to be implemented during the remedial process. The *Revised RAP* was submitted to OCHCA for review in September 2010, and approval of the *Revised RAP* was issued on February 15, 2011.

The *Revised RAP* examined a range of remedial alternatives for the gun range facility (refer to Section 5.1, *Hazards and Hazardous Materials*). The *Revised RAP* includes the selection of a preferred remedial alternative that is: 1) proven, viable, and cost-effective; 2) acceptable to regulatory agencies; and 3) cost-effective on a per unit volume basis. The preferred remedial alternative identified by the *Revised*

RAP is the "Excavation of Areas Exceeding 80 PPM Lead and Removal of Telephone Poles (Segregation of Lead Impacted Portions)." OCHCA consulted with the State of California Office of Environmental Health Hazard Assessment (OEHHA) regarding the proposed project, which resulted in the requirement to remediate the site to the residential standard (80 PPM) per the revised DTSC standard, rather than the commercial/industrial standard. This is considered a conservative approach to the remediation since no residential uses would be implemented as part of the long-term reuse of the site.

This option entails the excavation of the soil berm along the northern boundary of the site to depths from 9 to 12 feet (1 to 2 feet deeper than known contamination) and removing other surficial impacts (estimated 1 foot to 3.5 feet) where sample results indicate greater than 80 parts per million (PPM) of lead. Based on the *Revised RAP*, approximately 14,000 tons of lead-impacted soil is estimated to be present on-site.

All wooden telephone poles would be removed and transported to a landfill under the preferred alternative. Each pole would be examined for lead fragments. It is expected that telephone poles utilized as backstops will have significant lead content while the remainder of telephone poles will generally be unimpacted. For backstop telephone poles, bullets are not expected to have penetrated deeper than approximately 12 inches. For those telephone poles with obvious lead contamination, the portion of the pole that is most heavily impacted by lead fragments would be cut out and separated from the remainder of the pole. The "front" 12-inch portion of the impacted pole would be removed and disposed of separately. The unimpacted portions of the telephone poles would be disposed of as appropriate, based on their coal tar content.

SITE REUSE

Following remediation, the project site is proposed to be developed as an open space/park element of Huntington Central Park. Huntington Central Park is located south of Slater Avenue, west of Gothard Street, north of Ellis Avenue, and east of Edwards Street. The project site is located within the southeastern portion of the 356.8-acre Huntington Central Park Master Plan. A range of recreational uses could be implemented at the site, as follows:

- Park Area (tot lot, picnic area, snack bar/restaurant, and passive open space);
- Dog park;
- Outdoor basketball courts;
- Outdoor tennis courts;
- Parking; and
- Restrooms.

In lieu of the outdoor basketball and tennis courts, the City may implement a 1.07-acre skate park facility. The skate park would consist of approximately 25,000 to 30,000 square foot skating area including raised skate bowls (approximately 15,000 square feet), a skatable concrete plaza area with curbs and railings of varying heights (approximately 10,000 square feet). The remaining acreage would be utilized for parking, landscape areas and seating areas similar to the other park development options noted above.

The project would also include minor ancillary facilities such as irrigation, lighting, landscaping, and utilities. The facility would continue to be accessed from Gothard Street. Improvements would be

required along the existing County-owned driveway ("access driveway" as depicted on Exhibit 3-7); an Easement Deed allowing for the City's improvement and use of the driveway was approved by the County on February 9, 2010. The proposed project may require up to approximately eight additional part-time staff members to supervise the proposed uses. However, no additional maintenance staff over the current levels is anticipated.

2.3 GOALS AND OBJECTIVES

Pursuant to Section 15124 (b) of the CEQA Guidelines, the EIR project description must include a statement of objectives sought by the proposed project. These objectives assist the Lead Agency in developing a reasonable range of alternatives to evaluate in the EIR, and aid decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should provide the underlying purpose of the project. The goals and objectives of the proposed project are to:

1. Remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use, in order to protect the health and safety of those in the surrounding community.

2. Provide residents within the City of Huntington Beach with open space/recreational opportunities through the provision of long-term park facilities after site remediation is complete.

2.4 ENVIRONMENTAL ISSUES/ MITIGATION SUMMARY

The following is a brief summary of the impacts, mitigation measures, and unavoidable significant impacts identified and analyzed in Section 5.0, *Environmental Analysis*, of this EIR. Refer to the appropriate EIR Section for additional information.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Section 5.1 HAZARDS AND HAZARDOUS MATERIALS		
Existing Hazardous Materials *Lead contamination resulting from gun range uses on-site would not result in a significant hazard to the public or environment.*	HAZ-1 Prior to issuance of any grading permit for the project, the City of Huntington Beach shall ensure that the Remediation Contractor has incorporated into its work plan all remedial recommendations associated with Alternative 2 within the *Revised Remedial Action Plan and Human Health Risk Assessment*, prepared by Waterstone Environmental Inc., dated January 2011. The *Revised Remedial Action Plan and Human Health Risk Assessment* is included as Appendix 13.3 of the EIR and is incorporated by reference into this mitigation measure. HAZ-2 The Remediation Contractor shall prepare a site-specific Health and Safety Plan (HASP) pursuant to the provisions of the *Revised Remedial Action Plan and Human Health Risk Assessment* (prepared by Waterstone Environmental, Inc., dated January 2011) Section 7.11, *Health and Safety Plan*, for all remediation work activities. The purpose of the HASP is to describe the controls and procedures that shall be implemented to minimize incidents, injury, and health risks associated with the excavation activities to be conducted at the project site. The following shall be addressed in the HASP: • The HASP shall incorporate the requirements specified by Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations Standards (WPA 29 CFR 1910.120 and CCR Title 8). • Field personnel shall review the HASP prior to commencing field work. Prior to initiation of field activities each day, a tailgate safety meeting shall be conducted to identify potential physical and chemical hazards and outline measures to be taken in event of an emergency. All on-site personnel shall be required to document their attendance at the tailgate safety meeting by signing a form before work each day.	A less than significant impact would result from existing on-site hazardous materials.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• During field activities, appropriate personal protective equipment shall be worn by all personnel within designated exclusion zones. The amount of dust present in the operator breathing zone shall be obtained in the field on a regular basis using a dust meter or equivalent as required by the HASP. The HASP shall be reviewed and approved by the City Engineer prior to the issuance of a grading permit. HAZ-3 Prior to the issuance of building permits for reuse of the project site, the City shall construct a landfill gas collection and control system (GCCS) that conveys landfill gas to the existing GCCS at the Huntington Central Sports Complex. In consultation with the SCAQMD, the City shall also implement an LFG monitoring program, which shall require that any proposed structures on-site would be monitored on at least a quarterly basis, consistent with SCAQMD Rule 1150.1. The proposed GCCS shall be coordinated with the SCAQMD, OCHCA, SARWQCB, and City of Huntington Beach Fire Department. The GCCS shall incorporate the recommendations included within the Landfill Gas Analysis for Former Gun Range Within Central Park prepared by SCS Engineers (dated February 4, 2009), and any additional recommendations identified by the City Engineer. The Landfill Gas Analysis for Former Gun Range Within Central Park is included as Appendix 13.10 of the EIR and is incorporated by reference into this Mitigation Measure.	
Long-Term Operations *Development of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or storage of hazardous materials.*	No mitigation measures are required.	A less than significant impact would result with regard to long-term project operations.
CUMULATIVE IMPACTS *Development of the proposed project and other related cumulative projects would not result in cumulatively considerable hazards and hazardous materials impacts.*	Refer to Mitigation Measures HAZ-1 through HAZ-3.	A less than significant cumulative impact would result with regard to cumulative hazards and hazardous materials impacts.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Section 5.2 GEOLOGY AND SOILS		
Seismicity *Development of the proposed project would not expose people/structures to significant impacts associated with seismic shaking.*	No mitigation measures are required.	A less than significant impact would result with regard to seismicity.
Liquefaction *The proposed project would not expose people or structures to significant adverse impacts from liquefaction with recommended mitigation and compliance with the California Building Code.*	GEO-1 Prior to issuance of a building permit, the Chief Building Official shall verify that any new structures are supported by a deep foundation system, such as driven piles or caissons. The foundation system shall be designated to withstand negative dragdown due to existing fill and to mitigate for liquefaction and lateral spreading. These foundation requirements shall be denoted on project plans for review and approval by the Chief Building Official.	A less than significant impact would result with regard to liquefaction.
Soil Erosion *Development of the proposed project would not result in substantial soil erosion and loss of topsoil.*	No mitigation measures are required.	A less than significant impact would result with regard to soil erosion.
Expansive Soils *Development of the proposed project would not expose people or property to significant effects associated with expansive soils.*	No mitigation measures are required.	A less than significant impact would result with regard to soil expansive soils.
CUMULATIVE IMPACTS *The proposed project along with other related future development would not result in increased geology, soils, and seismicity impacts in the area.*	Refer to Mitigation Measure GEO-1.	A less than significant cumulative impact would result with regard to cumulative geology and soils impacts.
Section 5.3 AIR QUALITY		
Short-Term (Construction) Emissions *Short-term construction activities associated with the proposed project would result in significant and unavoidable air pollutant emission impacts.*	AQ-1 Prior to issuance of any Grading Permit, the City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent	**A significant and unavoidable impact would result with regard to short-term (construction) emissions.**

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors: • All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust; • Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance; • Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered twice daily, or non-toxic soil binders shall be applied; • All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour; • Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area; • Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes. Alternatively a wheel washer shall be used at truck exit routes; • On-site vehicle speed shall be limited to 15 miles per hour; • All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; and • Reroute construction trucks away from congested streets or sensitive receptor areas.	
	AQ-2 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114 (*Spilling Loads on Highways*), with special attention to Sections 23114(b)(F), (e)(4) as amended, regarding the prevention of	

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	such material spilling onto public streets and roads. Prior to the issuance of grading permits, the Applicant shall demonstrate to the City of Huntington Beach City Engineer how the project operations subject to that specification during hauling activities shall comply with the provisions set forth in Sections 23114(b)(F), (e)(4).	
	AQ-3 Prior to issuance of any Grading Permit, the City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, O_3 precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City. Maintenance records shall be provided to the City by the construction contractor on a monthly basis. The City shall be responsible for ensuring that contractors comply with this measure during construction. Contract specifications shall be included in the project construction documents which shall be reviewed and approved by the City prior to issuance of a grading permit.	
	AQ-4 The following measures shall be implemented during remediation to substantially reduce NO_X related emissions. They shall be included in the Grading Plan and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit. • Off-road diesel equipment operators shall be required to shut down their engines rather than idle for more than five minutes, and shall ensure that all off-road equipment is compliant with the CARB in-use off-road diesel vehicle regulation and SCAQMD Rule 2449. • Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet EPA 2007 model year NO_X emissions requirements	

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• The following note shall be included on all grading plans: During remediation, all internal combustion engines/construction, equipment operating on the project site shall meet EPA-Certified Tier 3 emissions standards, or higher according to the following: - January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. - Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. - A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. • The remediation and construction contractors shall maintain construction equipment engines by keeping them tuned and regularly serviced to minimize exhaust emissions. • Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2. • Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators.	

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• Configure construction parking to minimize traffic interference. • Minimize obstruction of through-traffic lanes and provide temporary traffic controls such as a flag person during all phases of construction when needed to maintain smooth traffic flow. Construction shall be planned so that lane closures on existing streets are kept to a minimum. • Schedule construction operations affecting traffic for off-peak hours to the best extent when possible. • Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service.) • Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.	
	AQ-5 The following SCAQMD recommended measures shall be implemented for hauling activities related to soil remediation and demolition to substantially reduce NO_X related emissions. They shall be included in the Grading Plan and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit. • All heavy duty trucks utilized for hauling shall meet or exceed EPA 2007 engine emission standards. • Beginning in 2015, all heavy duty trucks utilized for hauling shall meet or exceed EPA 2010 engine emission standards. • If the above clean truck requirements are infeasible, a phase-in schedule shall be put forth that shall feasibly achieve emission reductions as soon as possible. • The contractor shall maintain a log of all hauling trucks entering the project site to ensure that on average, the daily truck fleet meets the selected EPA emission standards. This log shall be available for inspection by City staff at any time.	

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• Prohibit all vehicles and trucks from idling in excess of five minutes, both on- and off-site.	
Long-Term (Operational) Air Emissions *Long-term operation of the proposed project would not result in significant air pollutant emissions impacts.*	No mitigation measures are required.	A less than significant impact would result with regard to long-term (operational) air emissions.
CUMULATIVE IMPACTS **Short-Term Cumulative Impacts** *Short-term construction activities associated with the proposed project and related cumulative projects would result in significant and unavoidable short-term air quality impacts.*	Refer to Mitigation Measures AQ-1 through AQ-5.	**A significant and unavoidable cumulative impact would result with regard to short-term (construction) emissions.**
Long-Term Cumulative Impacts *Long-term operations associated with the proposed project and related cumulative projects would not result in significant long-term air quality impacts.*	No mitigation measures are required.	A less than significant cumulative impact would result with regard to long-term (operational) air emissions.
Section 5.4 GREENHOUSE GAS EMISSIONS		
Greenhouse Gas Emissions *Greenhouse gas emissions generated by the project would not have a significant impact on the environment.*	No mitigation measures are required.	A less than significant impact would result with regard to greenhouse gas emissions.
Consistency With Applicable GHG Plans, Policies or Regulations *Implementation of the proposed project could conflict with an applicable greenhouse gas reduction plan, policy, or regulation.*	No mitigation measures are required.	A less than significant impact would result with regard to consistency with applicable GHG plans, policies, or regulations.
CUMULATIVE IMPACTS *Greenhouse gas emissions generated by the project would not have a significant impact on the environment or conflict with an applicable greenhouse gas reduction plan, policy, or regulation.*	No mitigation measures are required.	A less than significant cumulative impact would result with regard to greenhouse gas emissions.
Section 5.5 NOISE		
Short-Term Construction Noise Impacts *Grading and construction within the area would not result in significant temporary noise impacts to nearby noise sensitive receivers.*	No mitigation measures are required.	A less than significant impact would result with regard to short-term construction noise impacts.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Construction-Related Vibration Impacts *Grading and construction associated with the proposed project would not result in significant temporary vibration impacts to nearby sensitive receptors.*	No mitigation measures are required.	A less than significant impact would result with regard to construction-related vibration impacts.
Long-Term (Mobile) Noise Impacts *Traffic generated by the proposed project would not significantly contribute to existing traffic noise in the area or exceed the City's established standards.*	No mitigation measures are required.	A less than significant impact would result with regard to long-term (mobile) noise.
Long-Term (Stationary) Noise Impacts *The proposed project would not result in a significant increase in ambient noise levels.*	No mitigation measures are required.	A less than significant impact would result with regard to long-term (stationary) noise impacts.
CUMULATIVE IMPACTS **Short-Term Cumulative Impacts** *Development associated with the proposed project and other related cumulative projects would not result in cumulatively considerable construction noise impacts.*	No mitigation measures are required.	A less than significant cumulative impact would result with regard to short-term noise.
Long-Term Cumulative Impacts *Development associated with the proposed project and other related cumulative projects would not result in cumulatively considerable long-term noise impacts.*	No mitigation measures are required.	A less than significant cumulative impact would result with regard to long-term noise.
Section 5.6 BIOLOGICAL RESOURCES		
Special Status Plant and Wildlife Species *Project implementation would not have an adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status.*	BIO-1 Prior to vegetation clearing activities on-site, the City of Huntington Beach shall conduct focused surveys for special status plant species during the appropriate blooming period (generally spring/summer) to determine the presence or absence of special status plant species. If a special status plant species is observed, its rarity and abundance shall be evaluated by the Project Biologist. If the finding is considered significant, then additional avoidance, minimization, or mitigation measures may be required as determined appropriate by the Project Biologist.	A less than significant impact would result with regard to special status plant and wildlife species.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	BIO-2 Prior to the approval of landscape plans for the proposed project, the project Landscape Architect shall certify to the City of Huntington Beach Planning and Building Department that exotic plant species (any species listed in the California Invasive Plant Council [Cal-IPC] Invasive Plant Inventory or the Federal Noxious Weed List) are not included in the plant palette for the site. BIO-3 Prior to vegetation clearing activities on-site, the City of Huntington Beach shall conduct focused surveys for the coastal California gnatcatcher to determine the presence or absence of this species on the project site. Survey protocol requires either (1) a minimum of six surveys be conducted between March 15 and June 30 or (2) a minimum of nine surveys be conducted between July 1 and March 14. If focused surveys determine that coastal California gnatcatcher is not present on the project site, then no further measures would be necessary. If focused surveys determine that the coastal California gnatcatcher is present on the project site, then the City shall implement additional avoidance, minimization, or mitigation measures as determined by the USFWS. BIO-4 Prior to the approval of lighting plans and specifications for the proposed project, the City of Huntington Beach Planning and Building Department shall verify that night lighting shall be directed away from open space areas and shielding shall be incorporated into the final project design to minimize the increase in ambient lighting adjacent areas to the greatest extent practicable. These stipulations shall be denoted on project plans for review and approval by the Planning and Building Department.	
Sensitive Natural Communities *Project implementation would not have an adverse effect on riparian habitat or other sensitive natural community.*	Refer to Mitigation Measure BIO-3.	A less than significant impact would result with regard to sensitive natural communities.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Migratory Birds *Implementation of the proposed project would not interfere with the movement of a native resident or migratory species.*	BIO-5 To the extent feasible, the City of Huntington Beach shall conduct all vegetation removal activities outside of the nesting season (typically February 15 to August 15) to avoid potential impacts to nesting birds. However, if initial vegetation removal occurs during the nesting season, all suitable habitat shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist prior to commencement of clearing. If any active nests are detected, a buffer of at least 100 feet (300 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete as determined by the Project Biologist.	A less than significant impact would result with regard to migratory birds.
CUMULATIVE IMPACTS *Project implementation would not have a cumulative adverse effect on special status species, riparian habitat or other sensitive natural community, or migratory birds.*	Refer to Mitigation Measures BIO-1 through BIO-5.	A less than significant cumulative impact would result with regard to special status species, riparian habitat or other sensitive natural community, or migratory birds.
Section 5.7 UTILITIES		
Water Services *Project implementation would not significantly increase the demand for water such that new entitlements or resources are needed.*	No mitigation measures are required.	A less than significant impact would result with regard to water services.
Wastewater Services *Project implementation would result in a less than significant impact to wastewater services.*	No mitigation measures are required.	A less than significant impact would result with regard to wastewater services.
Stormwater Facilities *The project would not result in new stormwater drainage facilities that would result in significant environmental effects.*	No mitigation measures are required.	A less than significant impact would result with regard to stormwater facilities.
Solid Waste *Implementation of the proposed project would not generate solid waste that exceeds the permitted capacity of the landfill serving the City.*	No mitigation measures are required.	A less than significant impact would result with regard to generation of solid waste.
The project would be subject to State and local statutes and regulations related to solid waste.	No mitigation measures are required.	A less than significant impact would result with regard to solid waste statutes and regulations.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
CUMULATIVE IMPACTS *Development associated with the proposed project and other related cumulative projects would not result in cumulatively considerable impacts to water supply, wastewater generation, stormwater, or solid waste generation.*	No mitigation measures are required.	A less than significant cumulative impact would result with regard to utilities.
Section 5.8 TRAFFIC AND CIRCULATION		
Forecast Existing Plus Project Conditions – Local Roadways *Project implementation would not cause a significant increase in traffic on local roadways for existing conditions when compared to the traffic capacity of the street system.*	No mitigation measures are required.	A less than significant impact would result with regard to local roadways under the forecast existing plus project condition.
Forecast Existing Plus Project Conditions – State Highways *Project implementation would not cause a significant increase in traffic for existing plus project conditions at a Caltrans intersection.*	No mitigation measures are required.	A less than significant impact would result with regard to State Highway facilities under the forecast existing plus project condition.
Short-Range Year 2016 With Project Conditions – Local Roadways *Project implementation would not cause a significant increase in traffic on local roadways under short-range year 2016 conditions when compared to the traffic capacity of the street system.*	No mitigation measures are required.	A less than significant impact would result with regard to local roadways under the short-range year 2016 with project condition.
Short-Range Year 2016 With Project Conditions – State Highways *Project implementation would not cause a significant increase in traffic under short-range year 2016 conditions at a Caltrans intersection.*	No mitigation measures are required.	A less than significant impact would result with regard to State Highway facilities under the short-range year 2016 plus project condition.
Long-Range Year 2030 With Project Conditions – Local Roadways *Project implementation would not cause a significant increase in traffic on local roadways under long-range year 2030 conditions when compared to the traffic capacity of the street system.*	TRA-1 Prior to issuance of a building permit for the proposed project, the City of Huntington Beach shall contribute its fair share to the implementation of the following potential improvements (also identified in the *Huntington Beach Circulation Element Update*) for the Beach Boulevard/Talbert Avenue intersection: • Add second westbound left turn lane; • Add defacto westbound right turn lane;	A less than significant impact would result with regard to local roadways under the long-range year 2030 with project condition.

IMPACTS	MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
	• Add separate northbound right turn lane; • Add second eastbound left turn lane; and/or • Stripe defacto eastbound right turn lane.	
Long-Range Year 2030 With Project Conditions – State Highways *Project implementation would not cause a significant increase in traffic under long-range year 2030 conditions at a Caltrans intersection.*	Refer to Mitigation Measure TRA-1.	A less than significant impact would result with regard to State Highway facilities under the long-range year 2030 plus project condition.
Hazardous Design Feature/Site Access *Implementation of the project would not result in hazards due to a design feature or incompatible uses.*	No mitigation measures are required.	A less than significant impact would result with regard to hazardous design features/site access as a result of the project.
Conflict With Policies, Plans, or Programs *Implementation of the project would not result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities as a result of a conflict with adopted policies, plans, or programs.*	No mitigation measures are required.	A less than significant impact would result with regard to the project conflicting with policies, plans, or programs.
Remediation and Construction Traffic *Traffic associated with remediation of the project site and construction of the project would not result in a significant impact to the surrounding circulation network.*	No mitigation measures are required.	A less than significant impact would result with regard to remediation and construction traffic.
CUMULATIVE IMPACTS *The proposed project along with other related cumulative projects would not result in cumulatively considerable impacts related to traffic and circulation.*	Refer to Mitigation Measure TRA-1.	A less than significant cumulative impact would result with regard to project-related traffic.

2.5 SUMMARY OF PROJECT ALTERNATIVES

In accordance with *CEQA Guidelines* Section 15126.6, this section describes a range of reasonable alternatives to the proposed project, which could feasibly attain most of the proposed project's basic objectives, but would avoid or substantially lessen significant effects of the proposed project. The evaluation considers the comparative merits of each alternative. The analysis focuses on alternatives capable of avoiding or substantially lessening the project's significant environmental effects, even if the alternative would impede, to some degree, the attainment of the proposed project objectives. Potential environmental impacts associated with the following alternatives are compared to impacts of the proposed project:

- "No Project" Alternative; and
- "Limited Excavation" Alternative.

However, in determining an appropriate range of alternatives to be evaluated in the EIR, three possible alternatives were considered but not carried forward for additional analysis, since they would not accomplish most of the basic objectives of the project or were considered infeasible. These three possible alternatives are as follows:

- An "Alternative Site" Alternative for this project would not be applicable as it would directly conflict with the project objective to remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use, in order to protect the health and safety of those in the surrounding community. The selection of an alternative site would conflict with the primary purpose of the project, and therefore is not under consideration.

- An "Alternative Use" Alternative (e.g., long-term reuse of the site as a commercial, industrial, or residential use) is not being considered by the City as it would directly conflict with the project objective to provide residents within the City of Huntington Beach with open space/recreational opportunities through the provision of long-term park facilities. In addition, this alternative would still require remediation of the project site prior to implementation of a long-term reuse, and thus a significant unavoidable air quality impact would remain.

- The "Alternative Disposal Site" Alternative assumes that lead-contaminated materials exported from the site during remediation would be transported to Buttonwillow Landfill in Buttonwillow, California. Buttonwillow Landfill is located approximately 163 miles from the project site. An "Alternative Disposal Site" Alternative would consist of a disposal site that would be closer to the project site. This would reduce the length of truck haul trips, and potentially reduce the significant unavoidable air quality impact identified for the project.

  However, there are only three fully permitted Class I commercial hazardous waste landfills disposal facilities that exist in California, which include Buttonwillow Landfill, Kettleman Hills Landfill, and Westmorland Landfill.[1] The Kettleman Hills Landfill is located in Kettleman City, approximately 210 miles from the project site. The Westmorland Landfill is located in Westmorland, approximately 190 miles from the project site. As such, the

[1] Department of Toxic Substances Control website, http://dtsc.ca.gov/upload/TitleVIAnnouncement.pdf, accessed February 22, 2013.

selection of an alternative disposal site (i.e., either Kettleman Hills Landfill or Westmorland Landfill) would result in an increase in distance that haul trucks would need to travel, exacerbating the significant air quality impact identified for the project. As such, an "Alternative Disposal Site" Alternative is not under consideration by the City.

The following is a description of each of the alternatives evaluated in Section 7.0, *Alternatives to the Proposed Project*.

"NO PROJECT" ALTERNATIVE

Pursuant to *CEQA Guidelines* Section 15126.6(e)(2), the No Project Alternative must be analyzed within the EIR. The No Project Alternative should discuss what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services. In certain instances, the No Project Alternative means "no build" wherein the existing environmental setting is maintained. Thus, this Alternative assumes that no remediation or reuse of the site would occur, and that the site would remain in its existing condition as a vacant former gun range facility.

"LIMITED EXCAVATION" ALTERNATIVE

As noted in Section 5.1, *Hazards and Hazardous Materials*, the *Revised Remedial Action Plan and Human Health Risk Assessment* (*Revised RAP*) analyzed a total of three remedial options, which included the proposed project, a No Action scenario, and a remedial option involving limited excavation and clean fill capping. This final remedial scenario involving limited excavation and clean fill capping ("Limited Excavation" Alternative) is analyzed as it would result in a decrease in materials exported from the site.

The Limited Excavation Alternative would involve a reduction in the amount of contaminated soil excavated and removed from the project site in comparison to the proposed project. The Limited Excavation Alternative would involve removal of soil in the Soil Berm area of the project site to a depth of five feet (versus the maximum 12 feet associated with the proposed project). The five feet of removed soil would be replaced with five feet of compacted fill for protection of the underlying lead-containing soil. However, an engineered cap may continue to shift and would be required to be maintained over time due to the nature of the uncompacted landfill materials underlying the project site. For the purposes of this analysis, the Limited Excavation Alternative would consist of a 25 percent reduction in excavated and hauled contaminated soil as compared to the proposed project.

Under the Limited Excavation Alternative, all aspects of the long-term reuse of the project site would remain identical to the proposed project.

"ENVIRONMENTALLY SUPERIOR" ALTERNATIVE

Table 2-1, *Comparison of Alternatives*, summarizes the comparative analysis presented in Section 7.0, *Alternatives to the Proposed Project*. Review of Table 2-1 indicates the No Project Alternative would be the environmentally superior alternative, as it would eliminate the significant unavoidable air quality impacts from remediation, and would reduce impacts related to geology and soils, GHG emissions, noise, biological resources, utilities, and traffic and circulation. However, the No Project Alternative

would not reduce impacts related to hazards and hazardous materials, as the site would remain contaminated by existing lead associated with the former gun range facility.

Table 2-1
Comparison of Alternatives

Sections	No Project	Limited Excavation
Hazards and Hazardous Materials	⮝	⮝
Geology and Soils	⮟	=
Air Quality	⮟	⮟
Greenhouse Gas Emissions	⮟	⮟
Noise	⮟	⮟
Biological Resources	⮟	=
Utilities	⮟	⮟
Traffic and Circulation	⮟	⮟

⮝ Indicates an impact that is greater than the proposed project (environmentally inferior).
⮟ Indicates an impact that is less than the proposed project (environmentally superior).
= Indicates an impact that is equal to the proposed project (neither environmentally superior nor inferior).

The Limited Excavation Alternative has been determined to be the environmentally superior alternative, since the No Project Alternative cannot be selected under *CEQA Guidelines* Section 15126.6(e). As previously discussed, the Limited Excavation Alternative would reduce the amount of soil excavated and hauled off-site as compared to the proposed project (although significant and unavoidable air quality impacts during remediation would remain). The Limited Excavation Alternative would result in similar impacts to the proposed project regarding geology and soils and biological resources. Due to the reduced amount of soil excavated and hauled, and the overall reduced amount of construction equipment and workers that would be required under the Limited Excavation Alternative, impacts regarding air quality, GHG emissions, noise, utilities, and traffic and circulation would be reduced as compared to the proposed project. However, the Limited Excavation Alternative would not reduce impacts related to hazards and hazardous materials, as this Alternative would implement an engineered cap over portions of the site that may result in increased impacts over the long-term. Because the Limited Excavation Alternative would result in a general reduction in impacts in comparison to the proposed project, the Limited Excavation Alternative has been determined to be the environmentally superior alternative.

However, as noted above, neither the No Project Alternative nor the Limited Excavation Alternative would accomplish the identified project objectives. Since the No Project Alternative would leave the site in its existing state, this Alternative would not accomplish the objectives of remediating the former gun range facility nor would it achieve the objective of expanding recreational opportunities within the City. Since the Limited Excavation Alternative may result in long-term risks to human health and safety, it would not accomplish the project objective to remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use.

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3.0 Project Description

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The proposed project site is approximately 4.91 acres in size and part of Huntington Central Park which is located in the central portion of the City of Huntington Beach. The City of Huntington Beach is a coastal city along the Pacific Ocean in northwestern Orange County. It is surrounded by Westminster to the north, Fountain Valley to the northeast, Costa Mesa and Newport Beach to the east, and Seal Beach to the west; refer to Exhibit 3-1, *Regional Vicinity Map*. Los Angeles is located approximately 35 miles to the northwest while San Diego is 95 miles to the southeast.

Regional access to the site is provided via Interstate 405 (I-405) Freeway to the north, Beach Boulevard to the east, and Pacific Coast Highway to the south. Local streets surrounding the project site include Goldenwest Street to the west, Gothard Street to the east, Talbert Avenue to the north, and Ellis Avenue to the south (refer to Exhibit 3-2, *Site Vicinity Map*). The proposed project site is a former gun range practice facility used by the Huntington Beach Police Officer's Association, other law enforcement agencies, and the general public. The site is within Huntington Central Park and is bordered by the Huntington Central Park Sports Complex to the north and west, Sully Miller Lake to the south, and the former Orange County Transfer Station (also known as the Orange County Gothard Street Refuse Disposal Station) to the east (refer to Exhibit 3-3, *Aerial Photo*). The site is accessed from Gothard Street via a driveway owned by the County of Orange.

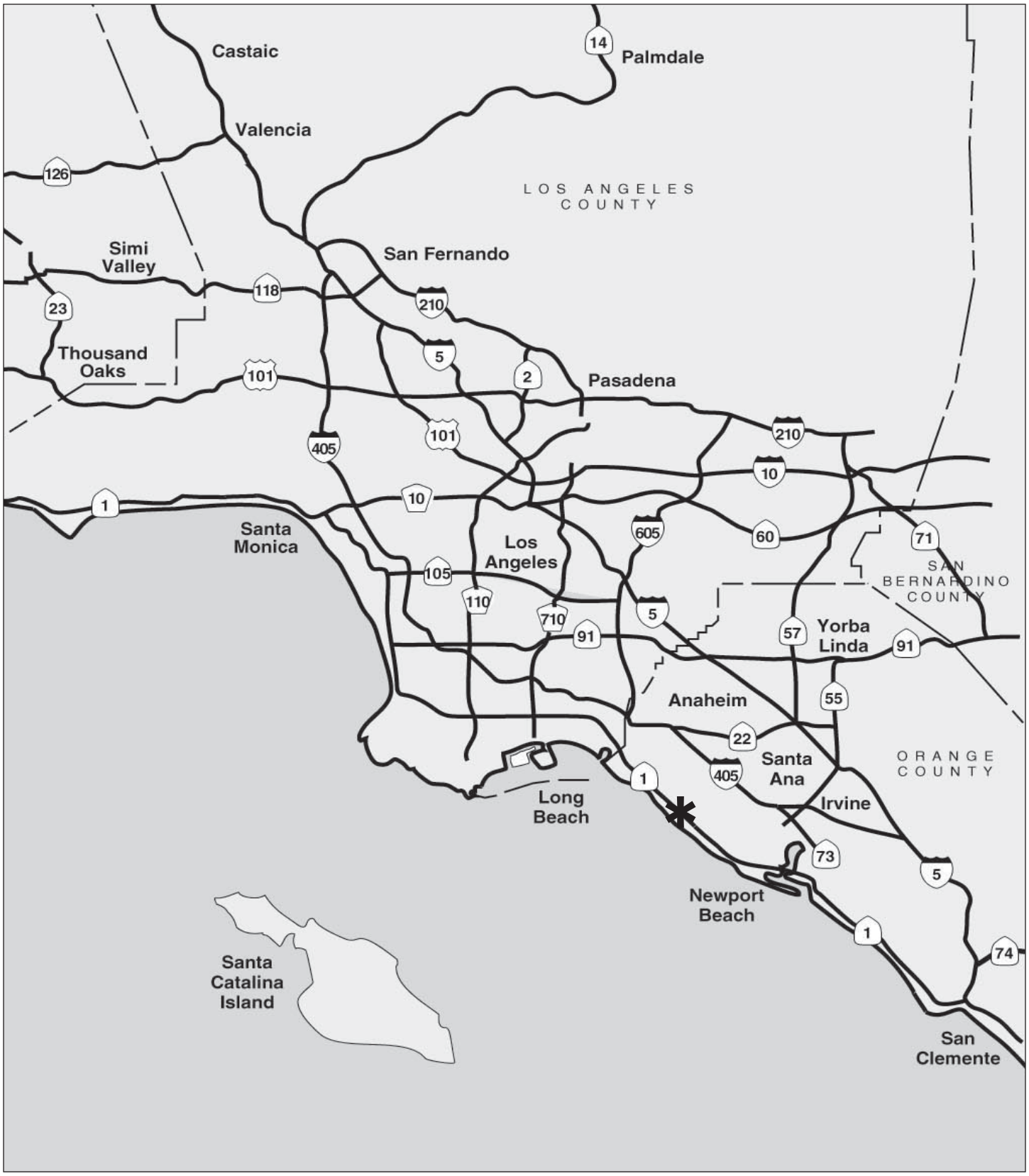
3.2 PROJECT SETTING

ENVIRONMENTAL SETTING

The former gun range site is relatively flat, gently sloping to the southwest, with an elevation of approximately 50 feet above mean sea level. Since the facility's closure in 1997, the majority of the site has been overgrown with brush and vegetation, with numerous mature trees scattered throughout the site (refer to Exhibit 3-4, *On-Site Photographs*).

The project site is surrounded by wooden telephone poles on its northern and western boundaries and a portion of its eastern boundary. These telephone poles are stacked to a height of approximately 20 feet, and were utilized as protective barriers for gun range activities. The interior of the former gun range facility is divided into three primary areas (refer to Exhibit 3-5, *Remedial Areas*), described as follows:

- *Main Firing Range*. The main firing range comprises the largest portion of the project site and is located within the northeastern portion of the facility. Improvements in this area include a small elevated rangemaster's office, a restroom facility, and two rows of firing stations (in an east/west configuration). A six- to eight-foot soil berm exists along the northern boundary, abutting the stacked telephone poles. Used automobile tires rest upon the soil berm as an additional barrier for firing activities. A concrete block wall (oriented north to south) divides the main firing range into two subareas.



✱ - Subject Site

NOT TO SCALE

ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

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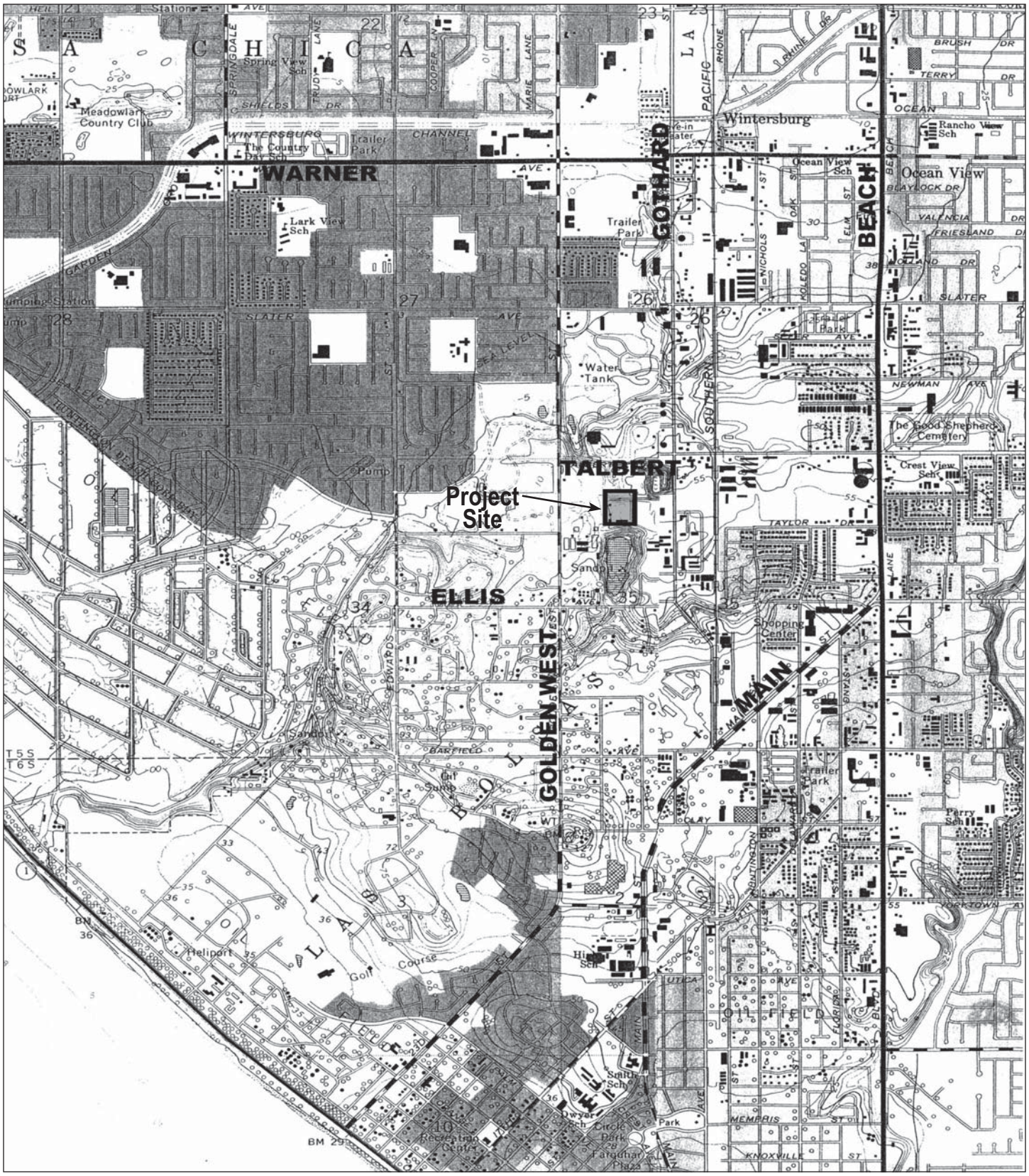
05/13 • JN 10-105676 (129894)

Regional Vicinity Map

Exhibit 3-1



Source: USGS Quadrangle Maps, 7.5 Minute, Newport Beach and Seal Beach, CA, Photorevised 1981.

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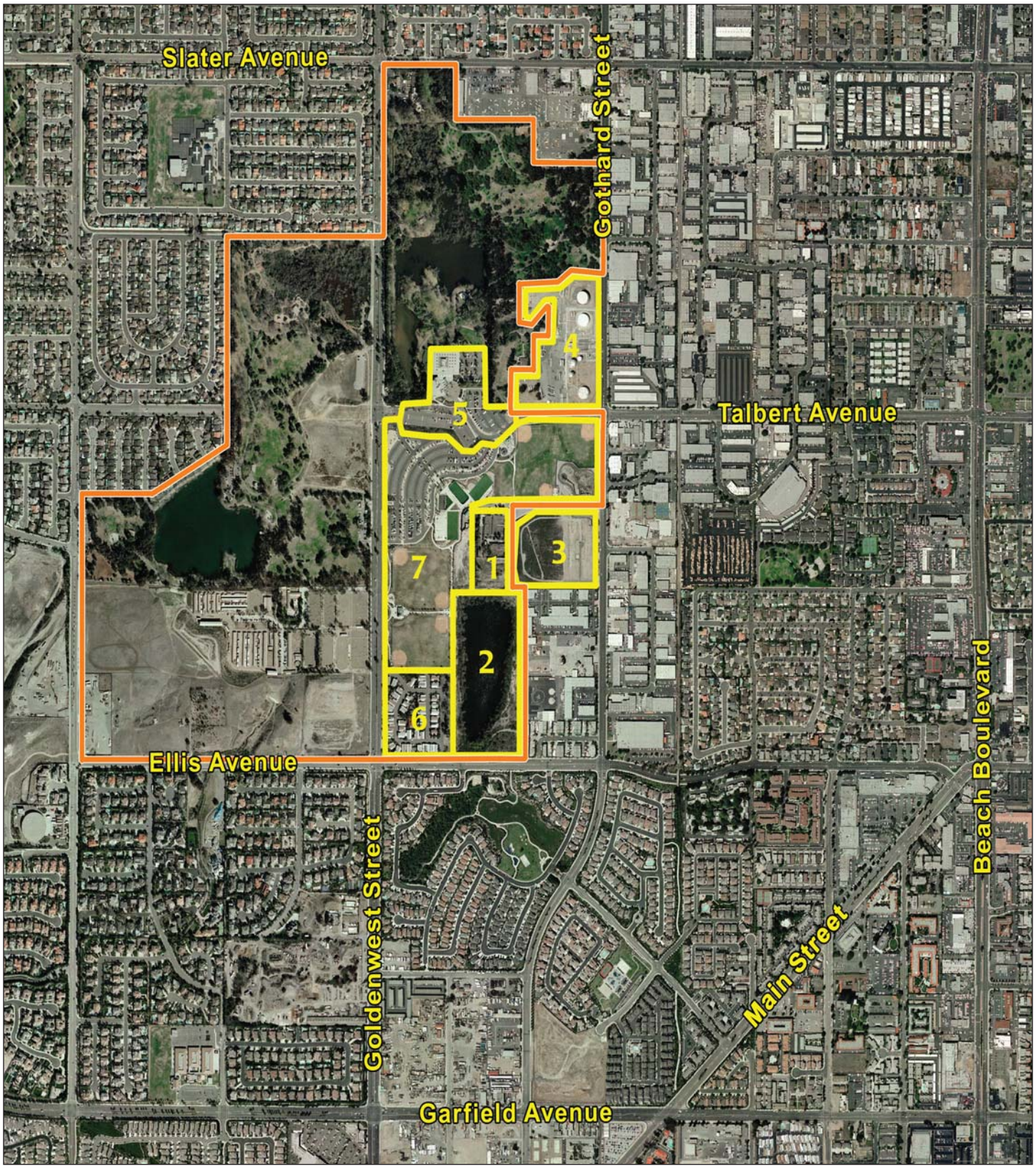
ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Site Vicinity Map

Exhibit 3-2



1 - Project Site
2 - Sully Miller Lake
3 - Orange County Transfer Station
4 - Chevron Facility
5 - Huntington Central Library
6 - Ocean View Mobile Home Park
7 - Huntington Central Park Sports Complex
- Huntington Central Park Boundary

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ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Aerial Photograph

Exhibit 3-3

View of the northeastern entrance to the project site.

View of the former sniper training area in the northwestern portion of the project site.

View of the former pistol range area in the southern portion of the project site.

View of the area south of the pistol range and Sully Miller Lake (located to the south of the project site).

View of the former main firing range area in the northern portion of the project site.

View of the central portion of the project site, between the former main firing range and pistol range.

ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

On-Site Photographs

Exhibit 3-4

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- Legal Boundary

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ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Remedial Action Plan Areas of Concern

Exhibit 3-5

- *Pistol Range*. The pistol range is located south of the main firing range, within the southeastern portion of the site. The pistol range is improved with a row of firing stations enclosed by a wooden platform and shelter. A row of stacked telephone poles exists along the northern boundary of the pistol range as a barrier for firing activities. A small storage shed is also located within the western portion of this area.

- *Sniper Training Area*. The sniper training area is located along the western boundary of the site. This area is improved with a north-south trending row of stacked telephone poles, as a barrier to the main firing range and pistol range. A six- to eight-foot soil berm exists along the northern boundary, with used automobile tires scattered throughout the northern portion of this area.

The site is also improved with two office trailers, one of which is located along the site's eastern boundary, and the other located between the main firing range and the pistol range. Asphalt paving is present along the entry driveway to the site, within the staging area for the main firing range, and within portions of the sniper training area. These conditions have been generally unchanged since the facility's closure in 1997. Photos depicting existing conditions on-site were taken in December of 2012 and are provided in Exhibit 3-4.

LAND USE/PLANNING

The proposed project site is located within the boundaries of Huntington Central Park and is included in the 356.8-acre total for the park. The *City of Huntington Beach General Plan* designates Huntington Central Park, including the proposed project site and other park amenities, as "Open Space-Park" (OS-P). This designation is intended to preserve open spaces that provide, maintain, and protect significant environmental resources, recreational opportunities, and visual relief from development for the City's existing and future residents. The project site is zoned "Open Space-Parks and Recreation" (OS-PR) by the *Huntington Beach Zoning and Subdivision Ordinance*. This district provides areas for public or private use and areas for preservation and enhancement.

SURROUNDING LAND USES

The project site is surrounded by the following uses (refer to Exhibit 3-3):

- *North:* The project site is bordered by park area to the north, including the Huntington Central Park Sports Complex and the Huntington Beach Central Library. A Chevron petroleum facility is located northeast of the site, at the northwest corner of Gothard Street and Talbert Avenue (designated "Industrial" [I-F2-d] by the *General Plan* and zoned "Industrial General" [IG]).

- *South:* Sully Miller Lake (a former sand and aggregate mining pit) is located immediately south of the project site, and the Ocean View Mobile Home Park is located to the southwest (at the northeast corner of Ellis Avenue and Goldenwest Street). Both of these areas are within the boundaries of Huntington Central Park and are therefore designated OS-P by the *General Plan* and are zoned OS-PR. Various businesses and industrial uses (designated "Industrial" [I-F2-d] by the *General Plan* and zoned IG and "Public-Semipublic" [PS]) are situated southeast of the project site, along Gothard Street. In addition, single-family

residential uses are situated south of Ellis Avenue, with a *General Plan* designation of "Residential Low Density" (RL-7-sp) and a zoning designation of "Specific Plan 9" (SP9).

- *East:* The former Orange County Transfer Station is adjacent to the project site to the east, along Gothard Street. Various businesses and industrial uses are situated east of Gothard Street. These areas to the east are designated I-F2-d by the *General Plan* and are zoned IG.

- *West:* The project site is bounded to the west by the lower portion of the Huntington Central Park Sports Complex, including a maintenance yard, ballfields, and a concession/restroom building.

3.3 BACKGROUND AND HISTORY

PROJECT SITE

Prior to any development on the project site, the site was occupied by a natural drainage feature approximately 35 feet deep. The drainage entered the site from the northwest and flowed towards the south, towards what is now known as Sully Miller Lake.[1]

Development on the site first occurred in the 1950s, when the County of Orange began utilizing the site as a portion of the 51-acre Huntington Beach Landfill. The Huntington Beach Landfill was divided into two primary areas: 1) a 33-acre mixed municipal refuse area; and 2) an 18-acre construction demolition waste area.[2] The proposed project site exists over the mixed municipal refuse area.[3] During the municipal landfill's operation, it is estimated that approximately 1.1 million cubic yards of waste were placed beneath and immediately surrounding the project site.[4] The County of Orange operated the landfill as a burning dump from September 1947 to September 1956, after which it operated as a cut and cover facility.[5]

Subsequent to the landfill's closure in 1962, the County of Orange deeded the property to the City of Huntington Beach.[6] A public and private gun range facility was constructed on the site in approximately 1968. The facility was utilized by various law enforcement agencies (including the Huntington Beach Police Officers Association) and the general public. In the early 1990s, unstable soil conditions caused by the decomposing landfill materials became evident and the public side of the facility was closed. In 1997, the entire gun range was closed due to safety concerns.[7] Due to the former landfill and gun range activities, the site represents a public health and safety hazard due to existing lead contamination and potential landfill gas migration.

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1 *Geotechnical Report, Central Park Sports Complex*, AMEC Earth & Environmental, November 28, 2000.
2 Ibid.
3 *Central Park Master EIR Geology Conditions*, Figure 8, CH2M HILL, April 24, 1998.
4 *Geotechnical Report, Central Park Sports Complex*, AMEC Earth & Environmental, November 28, 2000.
5 *Revised Remedial Action Plan and Human Health Risk Assessment – Former Gun Range Site*, Waterstone Environmental, Inc., January 2011.
6 *Geotechnical Report, Central Park Sports Complex*, AMEC Earth & Environmental, November 28, 2000.
7 Ibid.

3.4 PROJECT CHARACTERISTICS

The proposed project consists of two primary components: 1) remediation of existing lead contamination at the facility due to historical gun range operations; and 2) long-term reuse of the site as a recreational component of Huntington Central Park. These two primary components of the proposed project are described in detail below.

SITE REMEDIATION

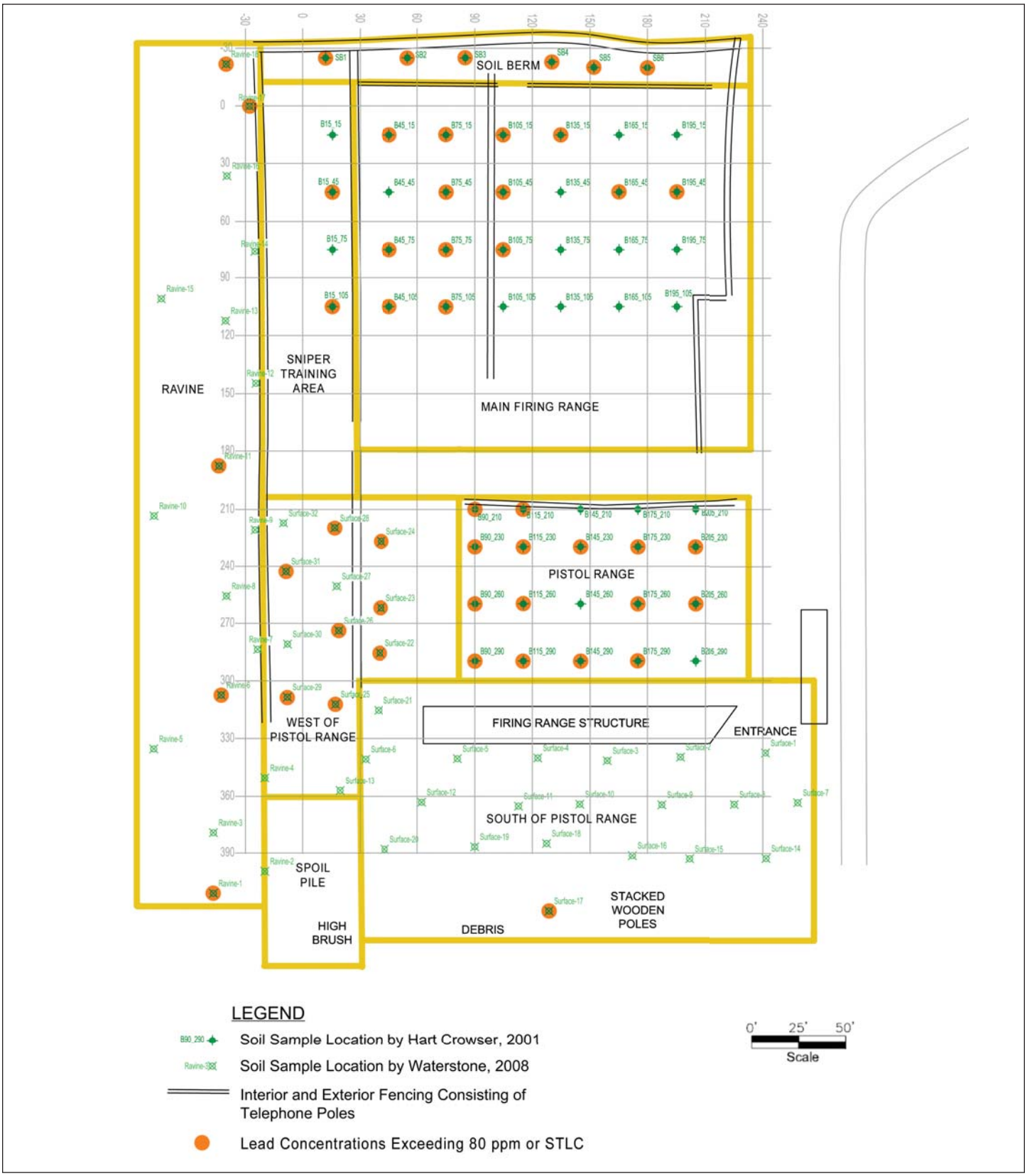
The Orange County Health Care Agency (OCHCA) has been identified as the lead agency for remediation of the gun range facility. The City initiated the lead remediation process in 2001 through initial soil sampling, analysis, and preparation of a Remedial Action Plan (RAP) by Hart Crowser, Inc. The soil sampling and analysis was subsequently updated in 2008 by Waterstone Environmental, Inc., who also prepared the *Revised Remedial Action Plan and Human Health Risk Assessment – Former Gun Range Site* (*Revised RAP*) in 2010. This document identifies existing conditions and primary concerns related to on-site lead contamination, a preferred method of remediation, regulatory thresholds to which the site must be remediated, and a range of safety measures to be implemented during the remedial process. The *Revised RAP* was submitted to OCHCA for review in September 2010, and approval of the *Revised RAP* was issued on February 15, 2011. A summary of existing conditions related to lead contamination and the preferred method of remediation is provided below. A detailed description of potential environmental impacts related to hazardous materials is provided within Section 5.1, *Hazards and Hazardous Materials*.

Areas of Concern and Contamination

As stated above, operations at the former gun range facility were divided into three primary areas: 1) main firing range; 2) pistol range; and 3) sniper training area. However, the *Revised RAP* separates the gun range facility into seven areas of concern for lead contamination, as depicted on Exhibit 3-5, *Remedial Action Plan Areas of Concern*. The seven areas of concern consist of the following:

1. Sniper and Special Forces Training Area;
2. Main Firing Range (note that the Soil Berm Area is immediately north of the Main Firing Range);
3. Telephone Poles (note that the Soil Berm Area is immediately south of the Telephone Poles);
4. Pistol Range;
5. Spoil Pile;
6. Ravine Area; and
7. Area South and West of the Pistol Range.

Hart Crowser, Inc. completed field sampling in March 2001. Soil samples were collected from the soil berm, the floor of the Main Firing Range, the floor of the Pistol Range, and from the Spoil Pile; refer to Exhibit 3-6, *Sample Locations*. Additionally, wood samples were collected from the wood post fencing throughout the project site.



Source: Waterstone Environmental, Inc., September 10, 2008.

ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

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05/13 • JN 10-105676 (129894)

Sample Locations

Exhibit 3-6

Waterstone, Inc. completed additional field sampling at 50 locations throughout the project site in August 2008. Eighteen locations were sampled on the downslope, bottom, and upslope in the Ravine Area located to the west of the former gun range; twenty locations were sampled in the Area South of the Pistol Range; and 12 locations were sampled in the Area West of the Pistol Range; refer to Exhibit 3-6.

The seven areas of concern and extent of contamination as a result of the field samplings are discussed below. A detailed description of regulatory clean-up thresholds for the project site is provided within Section 5.1, *Hazards and Hazardous Materials*.

- *Sniper Training Area*. The Sniper Training Area is located along the western boundary of the project site and is separated from the Main Firing Range by a double wall of 20-foot high wooden telephone poles. The northern third of this area is paved with asphalt. Elevated lead concentrations exceeding OCHCA clean-up guidance have been noted at two of four sample locations in this area.

- *Main Firing Range*. The Main Firing Range consists of over 20 shooting stations in the northeastern portion of the project site with target areas to the north. The target areas were located on or in front of a six- to eight-foot soil berm at the base of a double wall of telephone poles which traverse the entire northern project site boundary. Sampling and lab analysis indicated lead concentrations exceeded OCHCA clean-up levels at depths ranging from 2 to 10 feet at all 6 of the soil berm borings. The soil in the top one foot of the remainder of the Main Firing Range (excluding the soil berm) is also impacted by lead contamination exceeding clean-up guidance at 13 of 24 sampling locations.

- *Telephone Poles*. The Telephone Poles area is located behind (north of) the soil berm area and served as a backstop to the Main Firing Range. This area consists of a double backstop of telephone poles constructed to a height of approximately 20 feet that have been impacted by lead from bullets. It is estimated that over 600 telephone poles ranging from 20 feet to 60 feet in length exist on the project site, which were utilized for double walls and wall supports. Telephone poles separate the Main Firing Range from the Sniper Training Area and Pistol Range, and also comprise a west wall and partial east wall of the gun range facility. Areas of the project site containing telephone pole "fencing" that have not served as backstops are generally less impacted by lead.

- *Pistol Range*. The Pistol Range is located south of the Main Firing Range, within the southeastern portion of the site. This area is impacted by lead contamination to a depth that appears to be limited to the top one foot of soil. Fifteen of the 20 sample locations indicated lead concentrations exceeding OCHCA clean-up guidance.

- *Spoil Pile*. The Spoil Pile area is located immediately south of the Sniper Training Area. This area consists of residual soil resulting from "mining" of the soil berm that historically occurred biannually to retrieve lead bullets for recycling. Sampling at 12 locations in the Spoil Pile area indicated that no remediation is necessary.

- *Ravine Area*. The Ravine Area consists of a natural drainage located along the western boundary of the former gun range. This area has been sampled to determine whether stormwater runoff has impacted the ravine. Sampling has indicated that 5 of 18 sample locations exceed OCHCA clean-up guidance.

- *Area South and West of the Pistol Range*. This area was not used for gun range purposes. However, it has been sampled to determine whether stormwater runoff from the gun range facility has impacted this area. Of the 32 sample locations, 9 exceeded OCHCA clean-up guidance.

Preferred Method of Remediation

The *Revised RAP* examined a range of remedial alternatives for the gun range facility (refer to Section 5.1, *Hazards and Hazardous Materials*). The *Revised RAP* includes the selection of a preferred remedial alternative that is: 1) proven, viable, and cost-effective; 2) acceptable to regulatory agencies; and 3) cost-effective on a per unit volume basis. The preferred remedial alternative identified by the *Revised RAP* is the "Excavation of Areas Exceeding 80 PPM Lead and Removal of Telephone Poles (Segregation of Lead Impacted Portions)." OCHCA consulted with the State of California Office of Environmental Health Hazard Assessment (OEHHA) regarding the proposed project, which resulted in the requirement to remediate the site to the residential standard (80 PPM) per the revised DTSC standard, rather than the commercial/industrial standard. This is considered a conservative approach to the remediation since no residential uses would be implemented as part of the long-term reuse of the site.

This option entails the excavation of the soil berm along the northern boundary of the site to depths from 9 to 12 feet (1 to 2 feet deeper than known contamination) and removing other surficial impacts (estimated 1 foot to 3.5 feet) where sample results indicate greater than 80 parts per million (PPM) of lead. Based on the *Revised RAP*, approximately 14,000 tons of lead-impacted soil is estimated to be present on-site.

All wooden telephone poles would be removed and transported to a landfill under the preferred alternative. Each pole would be examined for lead fragments. It is expected that telephone poles utilized as backstops will have significant lead content while the remainder of telephone poles will generally be unimpacted. For backstop telephone poles, bullets are not expected to have penetrated deeper than approximately 12 inches. For those telephone poles with obvious lead contamination, the portion of the pole that is most heavily impacted by lead fragments would be cut out and separated from the remainder of the pole. The "front" 12-inch portion of the impacted pole would be removed and disposed of separately. The unimpacted portions of the telephone poles would be disposed of as appropriate, based on their coal tar content.

Landfill Gas

An active landfill gas extraction system has been implemented at the existing Huntington Central Park Sports Complex (located north and west of the project site) that includes 34 vertical gas extraction wells and a 10 horsepower gas extraction blower facility with activated carbon canister scrubbers. If necessary, this landfill gas extraction system can be modified and expanded to handle the migration of gases from the project site.

SITE REUSE

Following remediation, the project site is proposed to be developed as an open space/park element of Huntington Central Park. Huntington Central Park is located south of Slater Avenue, west of Gothard Street, north of Ellis Avenue, and east of Edwards Street. The project site is located within

the southeastern portion of the 356.8-acre Huntington Central Park Master Plan. A range of recreational uses could be implemented at the site, as follows:

- Park Area (tot lot, picnic area, snack bar/restaurant, and passive open space);
- Dog park;
- Outdoor basketball courts;
- Outdoor tennis courts;
- Parking; and
- Restrooms.

A summary of potential long-term recreational uses and associated acreages is provided within Table 3-1, *Potential On-Site Recreational Uses*. Proposed improvements at the facility are depicted on Exhibit 3-7, *Conceptual Site Plan*.

Table 3-1
Potential On-Site Recreational Uses

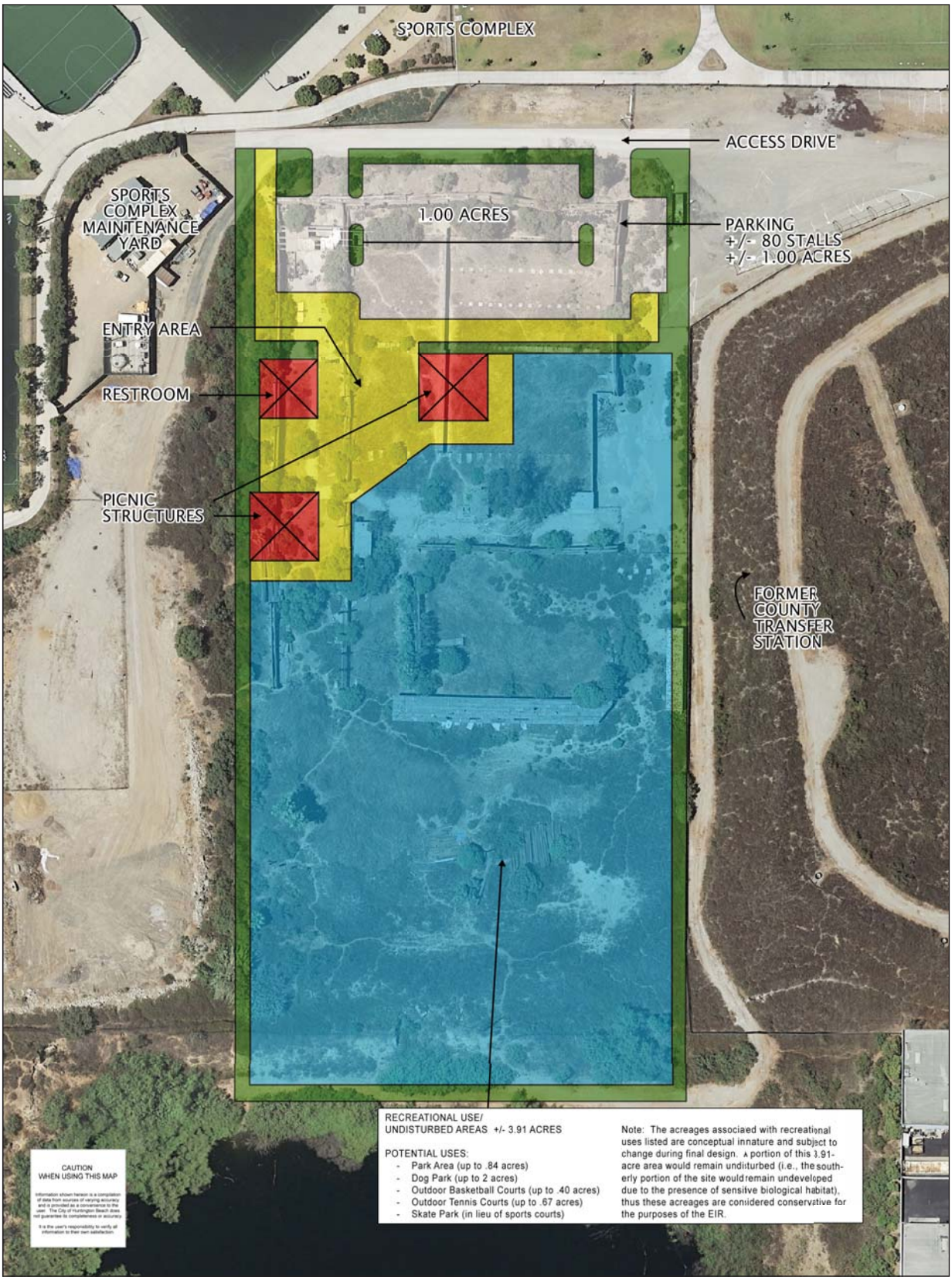
Recreational Use	Acreage
Park Area	0.84
Dog Park	2.00
Outdoor Basketball Courts (4)	0.40
Outdoor Tennis Courts (4)	0.67
Parking (80 spaces)	1.00
Total	**4.91**

Source: City of Huntington Beach, November 2012.

In lieu of the outdoor basketball and tennis courts, the City may implement a 1.07-acre skate park facility. The skate park would consist of approximately 25,000 to 30,000 square foot skating area including raised skate bowls (approximately 15,000 square feet), a skatable concrete plaza area with curbs and railings of varying heights (approximately 10,000 square feet). The remaining acreage would be utilized for parking, landscape areas and seating areas similar to the other park development options noted above.

The project would also include minor ancillary facilities such as irrigation, lighting, landscaping, and utilities. The facility would continue to be accessed from Gothard Street. Improvements would be required along the existing County-owned driveway ("access driveway" as depicted on Exhibit 3-7); an Easement Deed allowing for the City's improvement and use of the driveway was approved by the County on February 9, 2010. The proposed project may require up to approximately eight additional part-time staff members to supervise the proposed uses. However, no additional maintenance staff over the current levels is anticipated.

All of the long-term recreational uses described above would be consistent with existing City land use and zoning designations. The project would conform with the City's *General Plan* designation of OS-P and zoning designation of OS-PR. In addition, project development would be consistent with the following four land use designations set forth by the *Master Plan of Recreation Uses for Huntington Central Park*:



Source: City of Huntington Beach, March 2013.
Note: This site plan is conceptual in nature and subject to change during final design.

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05/13 • JN 10-105676 (129894)

ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Conceptual Site Plan

Exhibit 3-7

- *L - Recreation/Low Intensity*. Open Space developed for low intensity passive-type researched activities.

- *M - Recreation/Medium Intensity*. Open Space developed for medium intensity or semi-active recreation activities.

- *H - Recreation/High Intensity*. Developed area for high intensity or active type recreation activities. This designation includes structural and/or support facilities.

- *E - Environmental Sensitive Areas*. Limited development, for public use, that does not adversely impact identified scientific, ecological, cultural, or aesthetic features.

3.5 GOALS AND OBJECTIVES

Pursuant to Section 15124 (b) of the CEQA Guidelines, the EIR project description must include a statement of objectives sought by the proposed project. These objectives assist the Lead Agency in developing a reasonable range of alternatives to evaluate in the EIR, and aid decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should provide the underlying purpose of the project.

The overall goals and objectives for the proposed remediation and reuse of the former gun range facility are intended to protect the health and safety of the local community and to provide recreational opportunities within the City.

The basic project objectives of the proposed project are to:

1. Remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use, in order to protect the health and safety of those in the surrounding community.

2. Provide residents within the City of Huntington Beach with open space/recreational opportunities through the provision of long-term park facilities after site remediation is complete.

3.6 CONSTRUCTION PHASING

The proposed project would be implemented in two primary phases. The first phase would consist of remediation of on-site hazardous materials and would last approximately three months. The second phase would consist of the construction of improvements associated with the site's long-term recreational reuse. The length of this phase would depend on the type of recreational use selected for the site, but is anticipated to last approximately six months and may or may not begin immediately after the completion of remediation depending on the availability of funding.

3.7 AGREEMENTS, PERMITS, AND APPROVALS

The following agreements, permits, and approvals are anticipated to be necessary for project implementation:

Table 3-2
Anticipated Agreements, Permits, and Approvals

Agency	Approval or Permit
City of Huntington Beach	• Final EIR Certification • Land Use Entitlements for Long Term Reuse • Building Permits • Grading Plans • The project will be required to comply with all applicable City Code requirements and regulations.
Orange County Health Care Agency	• Landfill Gas Mitigation Plan • Building Plans
Regional Water Quality Control Board	• National Pollutant Discharge Elimination System (NPDES) Permit • Waste Discharge Requirements (WDR)

4.0 Basis of Cumulative Analysis

4.0 BASIS OF CUMULATIVE ANALYSIS

Section 15355 of the *CEQA Guidelines*, as amended, provides the following definition of cumulative impacts:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*

Pursuant to Section 15130(a) of the *CEQA Guidelines*, cumulative impacts of a project shall be discussed when they are "cumulatively considerable," as defined in Section 15065(a)(3) of the Guidelines. Section 5.0 of this EIR assesses cumulative impacts for each applicable environmental issue, and does so to a degree that reflects each impact's severity and likelihood of occurrence.

As indicated above, a cumulative impact involves two or more individual effects. Per *CEQA Guidelines* Section 15130(b), the discussion of cumulative impacts shall be guided by the standards of practicality and reasonableness, and should include the following elements in its discussion of significant cumulative impacts:

1. *Either:*

    a. *A list of past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the Agency, or*

    b. *A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.*

2. *A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and*

3. *A reasonable analysis of the cumulative impacts of the relevant projects, including examination of reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.*

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. Information integral to the identification process was obtained from the City of Huntington Beach in January 2013. The resulting related projects are only those determined to be at least indirectly capable of interacting with the proposed project.

Table 4-1
Cumulative Projects List

Map ID	Project Name	Location	Description	Project Status
1	Senior Center	Southwest corner of Goldenwest Street and Talbert Avenue, 0.21 miles northwest of the project site.	Construction of a new 45,000 square foot senior center and associated parking.	Entitlements have been approved. Project currently on hold.
2	Talbert Lake Water Quality Project	Along Goldenwest Street, 0.34 mile north of the project site.	The Talbert Lake Diversion Project would divert up to 3 million gallons per day of urban runoff from the East Garden Grove Wintersburg Channel, through pre-treatment devices, and into a 15-acre area in Central Park for treatment to remove pollutants, thereby significantly reducing pollutant loading to the coastal receiving waters. Project components will include a channel diversion structure, pump station, control system, existing pipeline inspection and rehabilitation, additional conveyance piping, pretreatment, Natural Treatment Systems (NTS), Talbert Lake rehabilitation, groundwater recharge enhancements, educational exhibit, and monitoring.	A Mitigated Negative Declaration was adopted. Project currently on hold.
3	Longs Drugs	17725 Beach Boulevard, at the northwest corner of Beach Boulevard and Newman Avenue, 0.83 miles northeast of the project site.	The project involves the construction of an 8,800 square foot drugstore with a drive-through pharmacy.	Project is approved.
4	Fein Medical Office Building	7922 Liberty Avenue, on the south side of Liberty Avenue, west of Beach Boulevard, 0.84 miles northeast of the project site.	The project involves the construction of a 6,480 square foot medical office building.	Project is approved.
5	Beach & Ellis Mixed-Use	Five Points area of the Specific Plan, 0.85 miles southeast of the project site.	The Beach-Ellis project would result in a six-story mixed-use development consisting of commercial and residential uses on a 2.73-acre (113,256 square foot) parcel in the Five Points area of the Specific Plan. The project would include approximately 30,000 square feet of commercial uses, 7,000 square feet of retail shops, as well as 105 residential dwelling units. Associated open space and parking is also proposed. Alternatives to the project include an increased residential project with up to 274 residential units, private and public open space and 8,500 square of commercial space as well as a commercial alternative with 77,300 square feet of retail and office space.	The EIR has been certified, entitlements approved, and site preparation has begun.

Table 4-1 [continued]
Cumulative Projects List

Map ID	Project Name	Location	Description	Project Status
6	Rainbow Disposal	17121 Nichols Lane, 1.03 miles northeast of the project site.	Phased addition of 193,150 square feet including an increase in capacity from 2,800 tons to 4,000 tons per day.	The project entitlements have been approved.
7	Warner Nichols	Warner Avenue and Nichols Lane, 1.19 miles northeast of the project site.	General Plan and Zoning Map Amendments from residential to commercial on approximately 1.1 gross acres and industrial on approximately 3.3 gross acres and demolition or removal of existing historic structures.	A Draft EIR has been prepared and the project is in review.
8	Beach & Warner Mixed Use	Southwest corner of Beach Boulevard and Warner Avenue, 1.29 miles northeast of the project site.	The project consists of 272 dwelling units, 43,014 square feet of retail, 196,000 square feet of offices, 18,322 square feet of restaurant uses, 7,000 square feet of common area, 75,000 of public open space, and 1,990 parking spaces at buildout. Some of the existing uses would remain while others would be demolished and redeveloped.	The EIR has been certified.
9	Beachwalk	19891-19895 Beach Boulevard, 1.80 miles southeast of the project site.	The project consists of a 173 unit apartment complex.	Entitlements approved.
10	Archstone	Southwest corner of Edinger Avenue and Gothard Street, 1.86 miles north of the project site.	The project consists of a 510 unit apartment complex.	Project is in review.
11	Parkside Estates	West side of Graham Street, south of Warner Avenue, 1.90 miles northwest of the project site.	A 111-unit single-family residential project with 23 acres of proposed park/open space located on 50 acres.	The project has been approved by the City Council and Coastal Commission.
12	Boardwalk	Edinger Avenue and Gothard Street, 2.18 miles north of the project site.	The project consists of a mixed-use development in the Town Center District of the Specific Plan. The existing uses on site would be demolished including a (vacant) Levitz furniture store, an EZ lube oil change shop, and associated surface parking. The proposed project includes 984 residential dwelling units and approximately 60,000 square feet of ground floor retail.	Project is under construction.
13	Green & Clean	Northwest corner of Gothard Street and Edinger Avenue, 2.16 miles north of the project site.	Proposed 3,200 square foot carwash and 3,400 square foot retail building.	Entitlements approved.

Table 4-1 [continued]
Cumulative Projects List

Map ID	Project Name	Location	Description	Project Status
14	Edinger Hotel	Southeast corner of Edinger Avenue and Parkside Lane, 2.18 miles north of the project site.	The proposed Edinger Hotel project would consist of a 129-room, four-story hotel on a 99,869 square foot lot in the Town Center Boulevard area of the Specific Plan.	The City is determining the appropriate level of environmental clearance for this project.
15	Beach and Edinger Corridors Specific Plan (BECSP)	Along Beach Boulevard and Edinger Avenue, 2.26 miles northeast of the project site.	The BECSP permits mixed use, residential, and commercial development pursuant to a form based specific plan. Over an anticipated 20 year period, the BECSP allows for up to 4,500 residential units and additional commercial, office, and hotel space.	Specific Plan has been adopted.
16	Brightwater	Upper bench portion of Bolsa Chica, 2.32 miles west of the project site.	The Brightwater residential project consists of 349 single-family units on 105.3 acres of the upper bench portion of Bolsa Chica within the City.	Currently under construction.
17	The Village at Bella Terra/ The revised Village at Bella Terra	Between Edinger Avenue and Center Avenue, just west of the existing Bella Terra mall, 2.33 miles north of the project site.	General Plan Amendment and Zoning Text Amendment to increase the maximum development density, establish mixed-use zoning, and create mixed use development standards in Specific Plan No. 13. The General Plan Amendment currently allows a maximum of 713 dwelling units and 138,085 square feet of commercial uses. The City approved a mixed-use project with 468 dwelling units and 30,000 square feet of commercial uses, as well as a 154,113 square foot Costco, including an ancillary tire sales/ installation center and gas station.	An EIR has been certified for the approved The Village at Bella Terra project. An Addendum to this was approved for The Revised Village at Bella Terra project. Costco is completed and the remainder of the project is currently under construction.
18	Goldenwest College Master Plan	15744 Goldenwest Street, 2.36 miles north of the project site.	This project consists of an extensive improvement and building program to meet increasing enrollment needs and to update technology and outdated infrastructure. The project will include the renovation of older buildings, re-using existing buildings and the construction of new buildings, landscaping and infrastructure.	A Program Environmental Impact Report (EIR) has been circulated.
19	The Lofts Mixed Use Project	Southeast corner of Gothard Street and Center Avenue, 2.37 miles north of the project site.	A mixed use project consisting of 10,000 square feet of commercial uses on the ground floor and 385 residential units above the ground floor (five stories).	The entitlements for the project have been approved.
20	Wardlow School	9191 Pioneer Drive, 2.44 miles southeast of the project site.	The project consists of 49 single family residences.	Entitlements approved.
21	Van's Skate Park	Center Avenue, 500 feet east of Gothard Street, 2.51 miles north of the project site.	The project consists of a skate park with a 15,900 square foot skate plaza, 11,850 square foot skate bowl, 3,500 square foot skate shop/concessions.	Entitlements approved.

Table 4-1 [continued]
Cumulative Projects List

Map ID	Project Name	Location	Description	Project Status
22	Seawind Village Apartments	15555 Huntington Village Drive, on the west side of Huntington Village Drive, north of Center Avenue, 2.55 miles north of the project site.	Addition of 10 residential units to a 277-unit apartment complex and construction of a 7,500 square foot clubhouse/recreation center.	Project is under review by City.
23	Beach Promenade	Beach Boulevard and Atlanta Avenue, 2.91 miles southeast of the project site.	The Beach Promenade consists of two options for development; Option A and Option B. Maximum development square footage approved is 38,634 square feet (Option B) to the existing 85,107 square foot commercial center. The development project includes 2.07-acre frontage road and 0.61-acre adjacent to westerly property to enlarge site from 6.24 acres to 9.42 acres.	Project is under construction.
24	Pacific City	Along Pacific Coast Highway, between Huntington Street and First Street, 2.94 miles south of the project site.	A 31-acre mixed use project, including 191,100 square feet of retail/office/restaurant/entertainment uses; 250 room hotel; and 516 residential units.	Construction has been delayed.
25	Waterfront Third Hotel	Along Pacific Coast Highway, between the existing Waterfront Hilton and the Hyatt Regency Huntington Beach Resort and Spa, 3.12 miles south of the project site.	Addition of 156 rooms and related facilities.	Entitlements approved.
26	Lamb School	10251 Yorktown Avenue, 3.26 miles southeast of the project site.	The project consists of 81 single family residences.	Entitlements approved.
27	Harmony Cove	3901 Warner Avenue, 3.43 miles west of the project site.	The project consists of a 23 boat slip marina and ancillary uses.	Pending approval by Coastal Commission.

Source: City of Huntington Beach Planning Department, March 2013.

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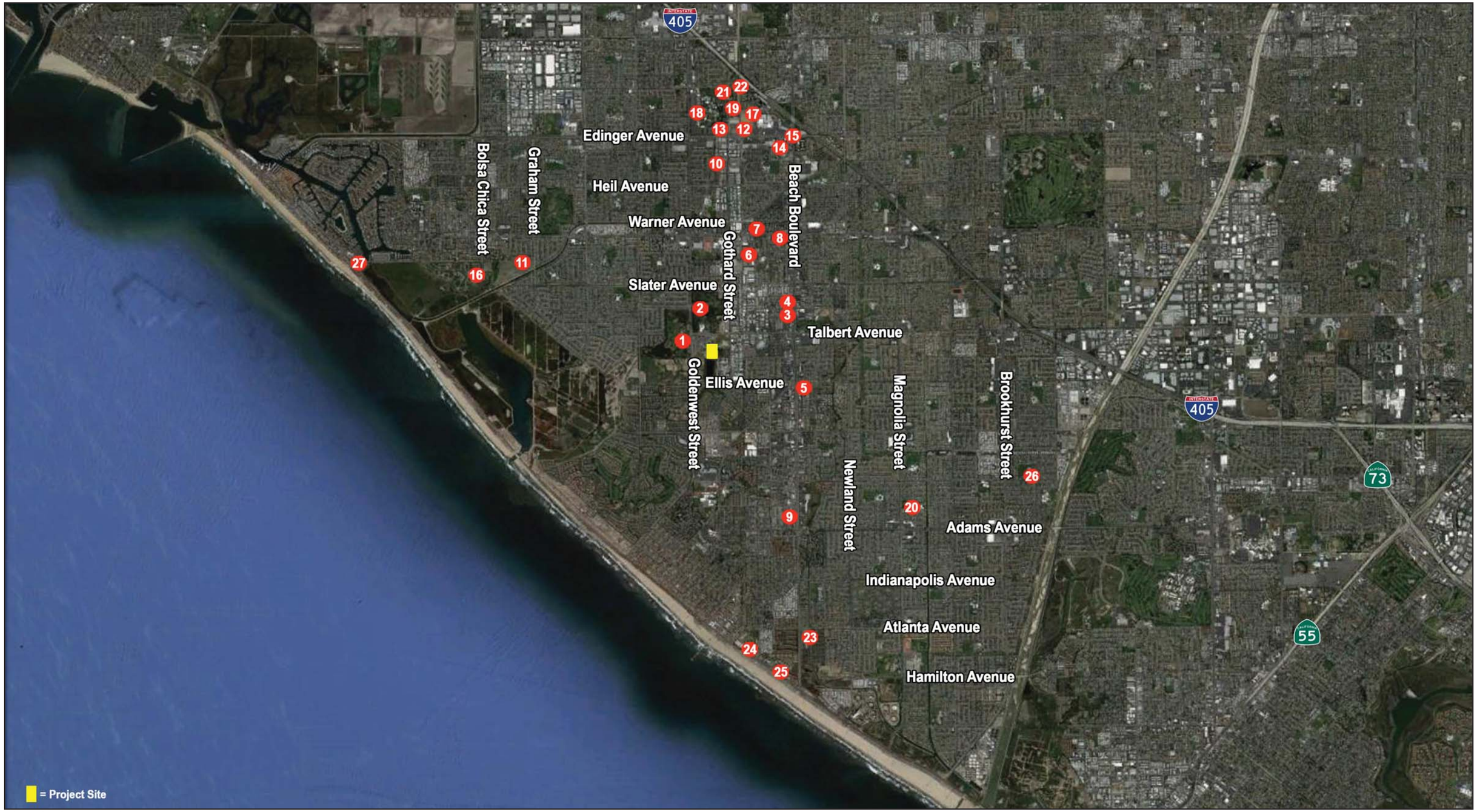

Note: Location sites are approximate.
Source: Google Maps, 2013.

NOT TO SCALE

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ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Cumulative Projects Location Map

Exhibit 4-1

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5.0 Environmental Analysis

5.0 ENVIRONMENTAL ANALYSIS

The following impact sections of the EIR contain a detailed description of existing conditions at the project site, project impacts (including direct and indirect, short-term, long-term, and cumulative impacts), recommended mitigation measures and unavoidable significant impacts. The EIR analyzes those environmental issue areas where potentially significant impacts could occur, as stated in Appendix 13.1, *Notice of Preparation*.

The EIR examines environmental factors outlined in *Appendix G* of the *CEQA Guidelines, Environmental Checklist Form*, as follows:

5.1 Hazards and Hazardous Materials;
5.2 Geology and Soils;
5.3 Air Quality;
5.4 Greenhouse Gas Emissions;
5.5 Noise;
5.6 Biological Resources;
5.7 Utilities; and
5.8 Traffic and Circulation.

Based on the Initial Study and Notice of Preparation prepared for the EIR, no significant impacts related to aesthetics, agriculture resources, cultural resources, hydrology and water quality, land use, mineral resources, population and housing, public services, and recreation are anticipated. As a result, these issues are addressed in Section 10.0, *Effects Found Not To Be Significant*.

Each environmental issue is addressed in a separate impact section of the EIR and is organized into six subsections, as follows:

- "Existing Setting" describes the physical conditions that exist at the present time and that may influence or affect the issue under investigation.

- "Regulatory Setting" lists and discusses the laws, ordinances, regulations, and standards that apply to the project.

- "Impact Thresholds and Significance Criteria" provides the thresholds that are the basis of conclusions of significance, which are primarily the criteria in Appendix G of the *CEQA Guidelines* (California Code of Regulations, Sections 15000 – 15387).

  Primary sources used in identifying the criteria include the *CEQA Guidelines*; local, state, federal, or other standards applicable to an impact category; and officially established significance thresholds. ". . . An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting" (*CEQA Guidelines* Section 15064[b]). Principally, ". . . a substantial, or potentially substantial, adverse change in any of the physical conditions within an area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance" constitutes a significant impact (*CEQA Guidelines* Section 15382).

- "Impacts and Mitigation Measures" describes potential environmental changes to the existing physical conditions, which may occur if the proposed project is implemented. Evidence, based on factual and scientific data, is presented to show the cause and effect relationship between the proposed project and the potential changes in the environment. The exact magnitude, duration, extent, frequency, range or other parameters of a potential impact are ascertained, to the extent possible, to determine whether impacts may be significant; all of the potential direct and reasonably foreseeable indirect effects are considered.

  Impacts are generally classified as potentially significant impact, less than significant impact, or no impact. The "Level of Significance After Mitigation" identifies the impacts that would remain after the application of mitigation measures, and whether the remaining impacts are or are not considered significant. When these impacts, even with the inclusion of mitigation measures, cannot be mitigated to a level considered less than significant, they are identified as "unavoidable significant impacts."

- "Mitigation Measures" are project-specific measures that would be required of the project to avoid a significant adverse impact; to minimize a significant adverse impact; to rectify a significant adverse impact by restoration; to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations; or to compensate for the impact by replacing or providing substitute resources or environment.

- "Cumulative Impacts" describes potential environmental changes to the existing physical conditions that may occur as a result of the proposed project together with all other reasonably foreseeable, planned and approved future projects producing related or cumulative impacts.

- "Significant Unavoidable Impacts" describes impacts that would be significant, and cannot be feasibly mitigated to less than significant, so would therefore be unavoidable. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If the benefits of a project are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered "acceptable" (*CEQA Guidelines* Section 15093[a]).

5.1 HAZARDS AND HAZARDOUS MATERIALS

This section discloses the potential for environmental impacts that could occur at the project site due to hazardous materials and to identify feasible mitigation measures that would reduce any potentially significant impacts to less than significant levels. This section incorporates information from the project's *Revised Remedial Action Plan and Human Health Risk Assessment* (*Revised RAP*), prepared by Waterstone Environmental, Inc. (January 2011). The *Revised RAP* was approved by the Orange County Health Care Agency (OCHCA) on February 15, 2011, and this document is included within the EIR as Appendix 13.3, *Revised Remedial Action Plan and Human Health Risk Assessment*. This section also includes analysis from the *Landfill Gas Analysis for Former Gun Range Within Central Park* (*Landfill Gas Analysis*) prepared by SCS Engineers (February 4, 2009), which is included within the EIR as Appendix 13.10, *Landfill Gas Analysis*.

5.1.1 EXISTING SETTING

DEFINITIONS

The United States Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC) have developed and continue to update lists of hazardous wastes subject to regulation. The term "hazardous material" refers to both hazardous substances and hazardous waste. A material is defined as "hazardous" if it appears on a list of hazardous materials prepared by a Federal, State, or local regulatory agency, or if it has characteristics defined as "hazardous" by such an agency. A "hazardous waste" is a "solid waste" that exhibits toxic or hazardous characteristics. The EPA has defined the term "solid waste" to include many types of discarded materials, including any gaseous, liquid, semi-liquid, or solid material which is discarded or has served its intended purpose, unless the material is specifically excluded from regulation. Such materials are considered waste whether they are discarded, reused, recycled, or reclaimed.

PROJECT SETTING

The project site is located within Huntington Central Park, City of Huntington Beach, and is surrounded by Talbert Avenue, Gothard Street, Ellis Avenue, and Goldenwest Street. The project site is located within an urbanized area and is currently undeveloped. The site is currently occupied by a former gun range facility that is no longer in operation.

The project is currently surrounded by industrial, commercial, and residential uses, which are described in detail below:

- *North*: The area north of the project site is occupied by the Huntington Central Park Sports Complex and the Huntington Beach Central Library. A Chevron petroleum facility is located northeast of the site, at the northwest corner of Gothard Street and Talbert Avenue.

- *East*: The former Orange County Transfer Station is adjacent to the project site to the east, along Gothard Street. Various businesses and industrial uses are situated east of Gothard Street.

- *West*: The project site is bounded to the west by the Huntington Central Park Sports Complex, Goldenwest Street, and Huntington Central Park.

- *South*: Sully Miller Lake (a former sand and aggregate mining pit) is located immediately south of the project site, and the Ocean View Mobile Home Park is located to the southwest (at the northeast corner of Ellis Avenue and Goldenwest Street). Various businesses and industrial uses are situated southeast of the project site, along Gothard Street. Single-family residential uses are located south of Ellis Avenue.

SITE HISTORY

Natural Drainage

Prior to any development on the project site, the site was occupied by a natural drainage feature approximately 35 feet deep. The drainage entered the site from the northwest and flowed towards the south, towards what is now known as Sully Miller Lake.[1]

Huntington Beach Landfill

Development on the site first occurred in the 1950's, when the County of Orange began utilizing the site as a portion of the 52-acre Huntington Beach Landfill. The Huntington Beach Landfill was divided into two primary areas: 1) a 33-acre mixed municipal refuse area; and 2) an 18-acre construction demolition waste area.[2] The project site exists over the mixed municipal refuse area.[3] During the municipal landfill's operation, it is estimated that approximately 1.1 million cubic yards of waste were placed beneath and immediately surrounding the project site.[4]

Gun Range

Subsequent to the landfill's closure in 1962, the County of Orange deeded the property to the City of Huntington Beach.[5] A public and private gun range facility was constructed on the site in approximately 1968. The facility was utilized by various law enforcement agencies (including the Huntington Beach Police Officer's Association) and the general public. In the early 1990s, unstable soil conditions caused by the decomposing landfill materials became evident and the public side of the facility was closed. In 1997, the entire gun range was closed due to safety concerns.[6] Due to the former landfill and gun range activities, the site represents a public health and safety hazard due to potential landfill gas migration and existing lead contamination.

EXISTING HAZARDOUS MATERIALS DOCUMENTATION

Three documents have been prepared that identify types/locations of on-site contamination associated with the former gun range. These documents are summarized below, and provide a description of on-site operations, types of contamination reported, locations of the reported

[1] *Geotechnical Report, Central Park Sports Complex*, AMEC Earth & Environmental, November 28, 2000.
[2] Ibid.
[3] *Central Park Master EIR Geology Conditions*, Figure 8, CH2M HILL, April 24, 1998.
[4] *Geotechnical Report, Central Park Sports Complex*, AMEC Earth & Environmental, November 28, 2000.
[5] Ibid.
[6] Ibid.

contamination, and/or recommended mitigation for remediation of on-site hazardous materials conditions.

Preliminary Investigation (November 1998)

In November 1998, the City contracted with American Environmental Services, Inc. (AES) to perform a Preliminary Investigation at the project site. AES collected 14 soil samples from the existing berms, one sample for background assessment, and one sample from the floor of the firing range. Soil samples were analyzed for Total Threshold Limit Concentrations (TTLC) of lead. Results indicated that 10 of the soil samples were considerably above the California Title 22 TTLC threshold.

Final Remedial Investigation Report (April 2001)

The City retained the services of Hart Crowser, Inc. in April 2001 to conduct a remedial investigation for the impacts of heavy metals at the project site. Soil samples were collected from the Soil Berm, from the floor of the Main Firing Range, from the floor of the Pistol Range, and from the Spoil Pile. In addition, wood samples were collected from the wood post fencing throughout the property. Six locations contained lead concentrations exceeding 80 parts per million (PPM) or the Soluble Threshold Limit Concentration (STLC) analysis for lead exceeded the regulatory guidance of five PPM. Concentrations of lead were found in the soils throughout the berm of the Main Firing Range. In general, elevated total lead concentrations appeared to be randomly scattered with soil locations and depths across the floors of both firing ranges. Laboratory results indicate that wood post fencing at the site was treated with coal tar, not creosote as was originally believed.

Revised Remedial Action Plan and Human Health Risk Assessment (January 2011)

The City retained Waterstone Environmental, Inc. to prepare a Remedial Action Plan and Human Health Risk Assessment for the project site as part of the proposed project. The document was submitted to the City in April 2009 and was released to the OCHCA in September 2010. The *Revised RAP* and Human Health Risk Assessment (*HHRA*) were prepared in January 2011 and approved by OCHCA on February 15, 2011. Refer to Section 5.1.4, *Impacts and Mitigation Measures*, below, for further discussion of the *Revised RAP*.

5.1.2 REGULATORY SETTING

FEDERAL

United States Environmental Protection Agency (EPA)

Rules finalized by the EPA in January 2001 require industries across the country to report even small amounts of lead pollution to a public database maintained by the government called the Toxics Releases Inventory (TRI). However, in spite of scientific agreement on lead toxicity, and the need to reduce it, commercial firing ranges are exempt from the EPA's new lead reporting requirements.

The state DTSC has authority over shooting ranges only if they are abandoned and classified as toxic dump sites.

According to EPA Toxic Substances Control Act (TSCA) Section 403 Standard, January 2001, the criteria for lead concentrations in soil, which are considered to be hazardous, is greater than 400 mg/kg in bare soil in children's play areas, and an average of 1,200 mg/kg for bare soil in the rest of the yard.

If the lead concentration is below 1,000 mg/kg and the concentrations of leachable lead determined by the California extraction procedure, of the EPA's toxicity characteristic leaching procedure (TCLP), is less than 5 mg/kg, the soil is classified as "non-hazardous" in California and it may be disposed of in a municipal solid waste landfill. The soil is classified as a "hazardous waste" in California if the lead concentration is above 1,000 mg/kg. If classified as a "hazardous waste", it would have to be taken to a Resource Conservation Recovery Act (RCRA) "hazardous waste" landfill.

The EPA's RCRA regulations that govern wastes containing lead are directed to the disposal of the waste in a municipal landfill. The regulations are designed to protect groundwater supplies from pollution by landfill leachate. The EPA regulations specify a maximum concentration of lead that may be leached under specified conditions before the waste is classified as a hazardous waste. The EPA TCLP for designation of a lead-containing waste as a hazardous waste is based on a leachable lead concentration of 5.0 mg/L. Leachable lead values at or above this level cause a waste to be classified as a hazardous waste.

In accordance with RCRA land disposal restrictions, soil which is hazardous due to the lead toxicity characteristic (exceeds 5.0 mg/L when subjected to TCLP analysis) cannot be placed in an ordinary solid waste landfill. The soil will not require pre-treatment before disposal, but must be placed in a hazardous waste landfill. Costs associated with hazardous waste disposal can exceed ordinary landfill costs by 10 to 100 times. Therefore, removing as many lead fragments as possible for recycling in an effort to reduce the overall lead content of the soils should be evaluated to determine whether the cost of disposal can be reduced.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA, also known as Superfund, outlines the potential liability related to the cleanup of hazardous substances, available defenses to such liability, appropriate inquiry into site status under Superfund, and statutory definitions of hazardous substances and petroleum products. The proposed project is subject to CERCLA for the cleanup of any hazardous substances.

Resource Conservation and Recovery Act (RCRA)

RCRA was the first major Federal act regulating the potential health and environmental problems associated with solid waste hazards and non-hazardous waste. It gave the EPA the authority to control hazardous waste from manufacture to disposal. RCRA regulates the potential health and environmental problems associated with hazardous and non-hazardous solid waste. RCRA and the implementation regulations developed by the EPA provide the general framework for the national hazardous and non-hazardous waste management systems. This framework includes the

determination of whether hazardous wastes are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities. RCRA amendments enacted in 1986 began the process of eliminating land disposal as the principal hazardous waste disposal method. Hazardous waste regulations promulgated in 1991 address siting, design, construction, operation, monitoring, corrective action, and closure of disposal facilities.

Additional regulations addressing solid waste issues are contained in Title 40, Code of Federal Regulations (CFR), Part 258. The proposed project is subject to the requirements of RCRA related to the generation, storage, or disposal of hazardous and non-hazardous solid wastes. Regulation 29, CFR, Section 1910.120, Hazardous Waste Operations and Emergency Response, under the authority of the Federal Occupational Safety and Health Administration (OSHA) and Cal/OSHA, outlines methods and requirements for workers who handle or are potentially exposed to hazardous wastes and materials.

STATE

Titles 22 of the California Code of Regulations

Title 22 of the California Code of Regulations has established TTLCs used to designate a material as a hazardous waste for disposal evaluation. If the total concentration exceeds the TTLC (lead - 1,000 mg/kg), then the soils may be designated as a hazardous waste when considering landfill disposal. In order to evaluate leaching potential of a constituent, the California Waste Extraction Test (WET) may be run to evaluate the STLC (lead - 5 mg/L). If the TTLC or STLC are exceeded then the disposal material may be classified as a hazardous waste and require Class I landfill disposal or remediation if removed from the site. If the material exceeds the TTLC or STLC, then the TCLP analyses may be used to determine if the material is a RCRA or non-RCRA waste. Although native material or in-situ soils is not considered waste, the levels detected can be compared to the TTLC values for general evaluation.

Title 8 of the California Code of Regulations

The California Division of Occupational Safety and Health (Cal/OSHA) has established requirements to limit occupational exposure to lead. Construction, alteration and repair work, including demolition, is subject to Title 8, CCR, Section 1532.1 for lead, which outlines permissible exposure limits, exposure assessment requirements, methods of compliance, and necessary respiratory protection and protective clothing. Remediation work associated with the proposed project is subject to this law.

Department of Toxics Substances Control

The DTSC has established a human health screening value for lead for a residential scenario of 80 milligrams of lead per kilogram of soil (80 mg/kg or PPM). The State of California Office of Environmental Health Hazard Assessment (OEHHA) has developed a 1 microgram per deciliter (1 µg/dL) benchmark for source-specific incremental change in blood lead levels for protection of school children and fetuses. The blood lead level benchmark was previously 10 µg/dL.

REGIONAL

Orange County Health Care Agency

The OCHCA, Environmental Health Division, is designated as the Certified Unified Program Agency (CUPA) for the County of Orange by the State Secretary for Environmental Protection. The CUPA is the local administrative agency that coordinates the regulation of hazardous materials and hazardous wastes in Orange County through the following six programs:

- Hazardous Waste (HW);
- Underground Storage Tank (UST);
- Aboveground Petroleum Storage Tank (APST);
- Hazardous Materials Disclosure (HMD);
- Business Emergency Plan (BEP); and
- California Accidental Release Prevention (CalARP).

The OCHCA was identified as the lead agency for remediation of the proposed project site. OCHCA consulted with the OEHHA regarding the proposed project, which resulted in the recommendation to remediate the site to the residential standard (80 PPM) per the revised DTSC standard, rather than the commercial/industrial standard that was proposed in the original RAP.

5.1.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines includes questions relating to Hazardous Materials impacts. Accordingly, a project may create a significant environmental impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

- Create a significant hazard to the public or the environment or result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Be located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a

safety hazard for people residing or working in the project area (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency response plan or emergency evacuation plan (refer to Section 10.0, *Effects Found Not To Be Significant*); and/or

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fire, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (refer to Section 10.0, *Effects Found Not To Be Significant*).

Based on these criteria, 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.

5.1.4 IMPACTS AND MITIGATION MEASURES

EXISTING HAZARDOUS MATERIALS

- **LEAD CONTAMINATION RESULTING FROM FORMER GUN RANGE USES ON-SITE WOULD NOT RESULT IN A SIGNIFICANT HAZARD TO THE PUBLIC OR ENVIRONMENT OR RESULT IN REASONABLY FORESEEABLE UPSET OR ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS.**

Impact Analysis: As stated above, the project site has been previously used as a gun range facility which has resulted in lead contamination in exceedance of regulatory thresholds throughout the project site. In order to develop the project site as a component of Huntington Central Park the site must be remediated to a level that will not cause harm to human health or the environment. Therefore, the *Revised RAP* has been prepared for the project site to ensure adequate remediation and allow for a long-term recreational reuse of the site.

Revised Remedial Action Plan and Human Health Risk Assessment (January 2011)

Areas of Concern and Contamination

Portions of on-site soil areas and wood telephone poles used as a gun range backstop are known to be contaminated by the heavy metal (lead) from bullets discharged during firing range activities. The *Revised RAP* addresses lead contamination and proposes a clean-up plan that would allow the project site to be remediated for reuse by the City as a recreational facility.

For the purposes of environmental evaluation, the *Revised RAP* separates the project site into seven areas of concern, as depicted on Exhibit 3-5, *Remedial Action Plan Areas of Concern*. The areas of concern include the following:

1) Sniper and Special Forces Training Area;
2) Main Firing Range (includes a soil berm);
3) Telephone Poles;
4) Pistol Range;
5) Spoil Pile;
6) Ravine Area; and
7) Area South and West of the Pistol Range.

The *Revised RAP* is designed to reduce chemical concentration levels and/or eliminate potential exposure pathways that may affect future users of the project site. The *Revised RAP* remediation goals developed for the protection of human health and the environment have been performed via the use of regulatory standards and the *HHRA* prepared for the project. OCHCA indicates that the DTSC guidance sets the remediation goal for lead at 80 PPM. Additionally, remediation is required if the STLC analysis for lead exceeds the regulatory guidance of 5.0 PPM. Therefore, based on DTSC guidance and the results of the *HHRA*, the clean-up goal used in the *Revised RAP* is a residential cleanup guidance of 80 PPM lead concentration.

The seven areas of concern and extent of contamination as a result of the field samplings are discussed below.

Sniper Training. The Sniper Training area is located along the western boundary of the project site and is separated from the Main Firing Range by a double wall of 20-foot high wooden telephone poles. The northern third of this area is paved with asphalt. Elevated lead concentrations exceeding clean-up guidance have been noted at two of four sample locations in this area.

Main Firing Range. The Main Firing Range consisted of over 20 shooting stations in the northeastern portion of the project site with target areas to the north. The target areas were located on or in front of a six- to eight-foot soil berm at the base of a double wall of telephone poles which traverse the entire northern project site boundary. All 6 locations sampled in the Soil Berm area exceed the 80 PPM clean-up level. Thirteen of the 24 locations within the Main Firing Range sampled have lead concentrations exceeding clean-up guidance. Sampling and lab analysis indicated lead concentrations exceeded clean-up levels at depths of one foot of soil in 11 locations, 3.5 feet in depth at three locations, and 6.5 feet in depth at one location.

Telephone Poles. The Telephone Poles area is located behind the soil berm area and served as a backstop to the Main Firing Range. This area consists of double backstop walls constructed of 20-foot high telephone poles that have been impacted by lead from bullets fired. It is estimated that over 600 telephone poles ranging from 20 feet to 60 feet in length existing on the project site, used as double walls and wall supports. Telephone poles separate the Main Firing Range from the Sniper Training and Pistol Range areas, as well as comprise a west wall and partial east wall of the entire project site. Areas of the project site containing telephone pole "fencing" that have not served as backstops are likely to be much less impacted by lead.

Pistol Range. The Pistol Range is located south of the Main Firing Range, within the southeastern portion of the site. This area is impacted by lead contamination to a depth that appears to be mostly in the top one foot of soil. Fifteen of the 20 sample locations indicated lead concentrations exceeding clean-up guidance.

Spoil Pile. The Spoil Pile area is located immediately south of the Sniper Area. This area consists of residual soil which has been placed from "mining" the soil berm biannually to separate out lead bullets for recycling. Sampling at 12 locations in the Spoil Pile area indicated that no remediation is necessary.

Ravine. The Ravine area consists of a natural drainage located along the western boundary of the former gun range. This area has been sampled to determine whether water runoff has impacted the ravine. Sampling has indicated that 5 of 18 sample locations with contamination levels exceeding clean-up guidance.

Area South and West of the Pistol Range. This area was not used for gun range purposes; however, it has been sampled to determine whether runoff from the gun range has impacted this area. Of the 32 sample locations, 9 exceeded clean-up guidance.

Human Health Risk Assessment

An *HHRA* has been prepared concurrently with the *Revised RAP* to determine whether the levels of lead contamination at the project site have the potential to cause harm to human health or the environment. The *HHRA* has been prepared in compliance with the DTSC recommendations. The DTSC recommends that a blood lead level of 10 micrograms per deciliter not be exceeded. The *HHRA* estimates blood lead concentrations resulting from exposure to lead from dietary intake, drinking water, soil and dust ingestion, inhalation, and dermal contact. The results of the *HHRA* indicate that, following the implementation of the *Revised RAP*, the presence of lead at the project site would not present a health risk to future users of the site.

Remedial Alternatives

The *Revised RAP* includes a range of alternatives to remediate the site to meet regulatory thresholds. Identification of remedial alternatives allows for the evaluation of different methodologies and an understanding of the feasibility of each alternative. As stated above, based on regulatory guidance and the *HHRA* results, the clean-up goal for the project site per the DTSC is 80 PPM lead. Alternate remediation technologies for the project site were selected based on the following criteria:

- The technologies for the remediation method are proven, viable, and cost-effective;
- The remedial option is acceptable to the regulatory agencies; and
- The remedial option is cost-effective on a per unit volume basis.

The remedial alternatives considered for the project site are discussed below.

Alternative 1 – No Action

The "no-action" alternative leaves the project site in its current condition with no remedial treatment actions, no affected soil removals, and no capping. As a result, the existing ground cover throughout the project site would degrade with time and would result in exposures to contaminated

soils (both berms and ground surfaces), continued surface water infiltration, and potential landfill gas migration. Also, the project site would have little or no beneficial opportunities for long-term reuse due to potential contact with lead-impacted soils.

Alternative 2 – Excavation of Areas Exceeding 80 PPM Lead and Removal of Telephone Poles

Alternative 2 entails the excavation of the bermed area within the Main Firing Range to depths from nine to 12 feet and removing other surficial impacts where sample results indicate greater than 80 PPM lead. Based on the site investigation, approximately 14,000 tons of lead-impacted soil is estimated to be present on-site. Areas with clean soil overlying contaminated soil would be separated as practical into a stockpile and sampled to determine whether it can be reused on-site. Because of the large number of polynuclear aromatic hydrocarbons in the coal tar coating of the telephone poles and the very permeable nature of the underlying landfill, the telephone poles would require removal from the project site and cannot be used as fill material. All wooden telephone poles would be removed and transported to a landfill. Portions of telephone poles without contamination would be cut out, separated, and disposed of in accordance with regulatory requirements.

Alternative 3 – Same as Alternative 2 but Limited Excavation of the Bermed Area and "Hot Spots" and Limited Clean Fill Capping

Alternative 3 is identical to Alternative 2 with two exceptions: 1) remove soil in the Soil Berm area to a depth of five feet only; and 2) replace the removed soil with five feet of compacted fill as an engineered cap for protection of the underlying lead contaminated soil. This method would be more cost effective; however, an engineered cap may continue to shift and must be maintained over time due to the nature of the uncompacted landfill materials underlying the project site.

<u>Revised RAP Conclusion</u>

In conclusion, lead contamination levels exceeding clean-up guidance exist at 50 sample locations throughout the project site, as follows: 2 in the Sniper Training area; 13 in the Main Firing Range area; 15 in the Pistol Range Area; 5 in the Ravine Area; 9 in the Area South and West of the Pistol Range area; and all 6 sample locations in the Soil Berm area. There is approximately 14,000 tons of lead-impacted soil at the project site which exceeds the 80 PPM clean-up level that must be removed. Additionally, OCHCA has provided guidance that all locations with results greater than the lead STLC of 5 PPM will also require removal. Over 600 wooden telephone poles would also require removal from the project site.

Based on the *Revised RAP*, Alternative 2 has been chosen for remediation of the project site. This methodology completely removes all lead-impacted soil and does not require the on-going maintenance of an engineered fill cap (as recommended in Alternative 3). For the purposes of a long-term recreational reuse, it is a more complete solution that will not require any special treatment or handling of soil following remedial activities. The engineered cap associated with Alternative 3 may cause contaminated soils to become exposed as the site settles and subsides due to the underlying landfill. Prior to initiating remediation activities under Alternative 2, a series of mobilization activities would take place to establish the framework for on-site work during remediation. These mobilization activities include the following:

- Securing the project site and controlling site access;
- Preparing a Health and Safety plan (which will describe the controls and procedures to be implemented to minimize incidents, injury, and health risks associated with excavation and activities);
- Conducting utility clearances or procuring clearance from the City (Underground Service Alert [USA] will be notified prior to excavation activities who will contact all utility owners within the site vicinity);
- Filing necessary plans and permits including, but not limited to, grading permits and Storm Water Pollution Prevention Plans;
- Removal of telephone poles;
- Evaluating excavation areas and volumes for the purpose of selecting and preparing soil stockpile staging areas and determining the sequence of excavation activities;
- Working with the waste acceptance contractor to schedule receipt of the material to be disposed;
- Surveying in excavation areas;
- Removing debris in excavation areas; and
- Clearing and grubbing brush, trees, and other vegetation with minimum disturbance to the surface.

Following mobilization activities, remedial activities would commence. Each sample area where lead has been detected at concentrations exceeding total lead of 80 PPM requires remediation. A portable instrument will be utilized to measure lead concentrations in the field. Also, a hand-held x-ray fluorescence device will be utilized in the field to provide real-time lead analysis for confirmation samples. Following implementation of the *Revised RAP* Alternative 2, all lead impacted soil and telephone poles would be disposed of at a proper off-site location, leaving the project site in a condition that would not present a health risk to future users of the site. If necessary, clean backfill will be imported to the project site to replace the removed contaminated soil.

The *HHRA* contained within the *Revised RAP* indicates that the clean-up of the project site to 80 PPM is very conservative and adequately protects human health for a future recreational use. Mitigation Measure HAZ-1 requires the implementation of all remedial recommendations associated with *Revised RAP* Alternative 2 to ensure the site is properly remediated. Therefore, the presence of lead at the project site would not present a health risk to future users of the site with implementation of the remedial actions outlined within the *Revised RAP* and Mitigation Measure HAZ-1. A less than significant impact would occur in this regard.

Worker Safety

Construction workers during site remediation would be exposed to hazardous materials due to the amount of lead contamination at the project site. Therefore, the *Revised RAP* includes provisions for

the preparation of a site-specific Health and Safety Plan (HASP) for all on-site remediation work activities (Mitigation Measure HAZ-2). The purpose of the HASP is to describe the controls and procedures that would be implemented to minimize incidents, injury, and health risks associated with the excavation activities required. Prior to daily field activities, field personnel would attend a safety meeting to identify potential physical and chemical hazards and outline measures to be taken in the event of an emergency. During field activities, appropriate protective equipment would be worn by all personnel within designated exclusion zones. With implementation of Mitigation Measure HAZ-2, impacts to worker safety during remediation activities would be reduced to a less than significant level.

Landfill Gas

As previously stated, the subject site is located over a former landfill (Gothard Street Disposal Station). The former landfill was divided into two distinct areas consisting of 33.2 acres of mixed municipal refuse and 18.3 acres of construction demolition material. Based on available information, the project site overlies a portion of the mixed municipal waste area of the landfill. Decomposing refuse has caused substantial subsidence on-site and also creates the possibility for landfill gas (LFG) migration. LFG contains significant concentrations of methane and carbon dioxide, and generally contains traces of toxic compounds and carcinogens. If LFG accumulates in a building and methane is in the range of 5 to 15 percent by volume, an explosion can occur. Above 15 percent, combustion can occur from a spark. LFG existence is unknown at this time, as no monitoring has been performed on the project site. Potential future structural improvements on-site involving the implementation of concrete/asphaltic flatwork, floor slabs, and foundations may cause accumulations of methane gas. Also, utility corridors and vaults can result in methane accumulations. Where cracks develop in foundations below structures, methane gas can migrate into the interior of overlying structures and create the potential for explosion or fire.

However, it should be noted that the adjacent Orange County Refuse Station has a long-term LFG collection and control system (GCCS) in place due to LFG hazards. In addition, an active GCCS has been implemented at the adjacent proposed Sports Complex that includes 34 vertical gas extraction wells, a 10 horsepower gas extraction blower facility with activated carbon canister scrubbers, and 6 multi-depth LFG perimeter monitoring probes. The GCCSs at the Orange County Refuse Station and Sports Complex are permitted through the South Coast Air Quality Management District (SCAQMD).

In order to investigate and determine appropriate measures to minimize potential impacts related to LFG at the project site, a *Landfill Gas Analysis for Former Gun Range Within Central Park* (*Landfill Gas Analysis*) was prepared by SCS Engineers (dated February 4, 2009) for the project site. The *Landfill Gas Analysis* included LFG generation modeling to determine any improvements that may be required to reduce safety impacts. The *Landfill Gas Analysis* provided the following three alternatives relating to the potential for LFG hazards on-site: 1) No Action; 2) LFG Monitoring Program; and 3) LFG Collection and Monitoring. The *Landfill Gas Analysis* recommends the LFG Collection Alternative (Alternative 3), which would provide LFG collection to the site and would include a LFG monitoring program. As such, the proposed project would include facilities to collect LFG at the project site and provide a connection to the existing GCCS at the Sports Complex. These facilities would include five new vertical LFG extraction wells throughout the site which direct LFG westerly to the main header of the Huntington Beach Sports Complex LFG collection and control system.

As part of the improvements, an LFG monitoring program would also be implemented. Any proposed structures on-site would be monitored on a quarterly basis (at a minimum). As part of the permitting process, the SCAQMD may also require monitoring under Rule 1150.1, which could also include surface monitoring (as is currently conducted at the Sports Complex).

The project site's landfill gas mitigation system, specific to the proposed long-term recreational use, will require review and approval by the OCHCA, SCAQMD, and Santa Ana Regional Water Quality Control Board (SARWQCB). Additionally, as the project proposes construction within the City's Methane Mitigation District, the project would be required to comply with the City of Huntington Beach Fire Department Specification 429, *Methane District Building Permit Requirements*. Upon implementation of Mitigation Measure HAZ-3 and compliance with the City of Huntington Beach Fire Department Specification 429, impacts in regards to LFG are not anticipated to be significant.

Mitigation Measures:

HAZ-1 Prior to issuance of any grading permit for the project, the City of Huntington Beach shall ensure that the Remediation Contractor has incorporated into its work plan all remedial recommendations associated with Alternative 2 within the *Revised Remedial Action Plan and Human Health Risk Assessment*, prepared by Waterstone Environmental Inc., dated January 2011. The *Revised Remedial Action Plan and Human Health Risk Assessment* is included as Appendix 13.3 of the EIR and is incorporated by reference into this mitigation measure.

HAZ-2 The Remediation Contractor shall prepare a site-specific Health and Safety Plan (HASP) pursuant to the provisions of the *Revised Remedial Action Plan and Human Health Risk Assessment* (prepared by Waterstone Environmental, Inc., dated January 2011) Section 7.11, *Health and Safety Plan*, for all remediation work activities. The purpose of the HASP is to describe the controls and procedures that shall be implemented to minimize incidents, injury, and health risks associated with the excavation activities to be conducted at the project site. The following shall be addressed in the HASP:

- The HASP shall incorporate the requirements specified by Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations Standards (WPA 29 CFR 1910.120 and CCR Title 8).

- Field personnel shall review the HASP prior to commencing field work. Prior to initiation of field activities each day, a tailgate safety meeting shall be conducted to identify potential physical and chemical hazards and outline measures to be taken in event of an emergency. All on-site personnel shall be required to document their attendance at the tailgate safety meeting by signing a form before work each day.

- During field activities, appropriate personal protective equipment shall be worn by all personnel within designated exclusion zones. The amount of dust present in the operator breathing zone shall be obtained in the field on a regular basis using a dust meter or equivalent as required by the HASP.

  The HASP shall be reviewed and approved by the City Engineer prior to the issuance of a grading permit.

HAZ-3 Prior to the issuance of building permits for reuse of the project site, the City shall construct a landfill gas collection and control system (GCCS) that conveys landfill gas to the existing GCCS at the Huntington Central Sports Complex. In consultation with the SCAQMD, the City shall also implement an LFG monitoring program, which shall require that any proposed structures on-site would be monitored on at least a quarterly basis, consistent with SCAQMD Rule 1150.1. The proposed GCCS shall be coordinated with the SCAQMD, OCHCA, SARWQCB, and City of Huntington Beach Fire Department. The GCCS shall incorporate the recommendations included within the *Landfill Gas Analysis for Former Gun Range Within Central Park* prepared by SCS Engineers (dated February 4, 2009), and any additional recommendations identified by the City Engineer. The *Landfill Gas Analysis for Former Gun Range Within Central Park* is included as Appendix 13.10 of the EIR and is incorporated by reference into this Mitigation Measure.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

LONG-TERM OPERATIONS

- **DEVELOPMENT OF THE PROPOSED PROJECT WOULD NOT CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH THE ROUTINE TRANSPORT, USE, OR STORAGE OF HAZARDOUS MATERIALS**

Impact Analysis: Following remediation, the project site is proposed to be developed as a recreational element of Huntington Central Park. Huntington Central Park is located south of Slater Avenue, west of Gothard Street, north of Ellis Avenue, and east of Edwards Street. The project site is located within the southeastern portion of the 356.8-acre Huntington Central Park Master Plan. A range of recreational uses could be implemented at the site, such as a park area, dog park, basketball courts, tennis courts, parking area, and restrooms. In lieu of the outdoor basketball and tennis courts, the City may implement a 1.07-acre skate park facility.

As previously discussed, the project would involve the remediation of the project site pursuant to the *Revised RAP* for the long-term recreational reuse of the site. Alternative 2 recommended by the *Revised RAP* has been chosen for site remediation and would involve the removal of lead-impacted soil exceeding the 80 PPM clean-up level threshold and the removal of over 600 wooden lead-impacted telephone poles. The *HHRA* contained within the *Revised RAP* indicates that the clean-up of the project site to 80 PPM is very conservative and adequately protects human health for a future recreational use. As such, potential future users of the proposed recreational facility would not be subject to health hazards related to existing lead contamination on-site.

Long-term operation of the project would not involve the transport, use, and/or storage of substantial amounts of hazardous materials. Although hazardous materials such as gasoline, fertilizers, cleaning supplies, and other products would be used in association with routine maintenance activities associated with recreational facilities, any such use would involve negligible quantities and their transport, use, and storage would be conducted in accordance with existing Federal, State, and local requirements. Impacts would be less than significant upon adherence to existing regulatory requirements during long-term operations.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.1.5 CUMULATIVE IMPACTS

- **DEVELOPMENT OF THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE HAZARDS AND HAZARDOUS MATERIALS IMPACTS.**

Impact Analysis: The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. The project site is located within the central portion of the City. There are five identified cumulative projects within approximately one mile of the project site that have highest potential to interact with the proposed project, consisting of the proposed Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use Project. However, this analysis considers an additional 22 projects throughout the City in an effort to provide a conservative analysis of cumulative impacts.

As previously discussed, the proposed project site is currently contaminated with lead above regulatory thresholds. However, a *Revised RAP* has been prepared as part of the proposed project, which outlines the remediation activities required at the project site to achieve the regulatory guidance of 80 PPM. Implementation of the *Revised RAP* would result in beneficial impacts in this regard since the project would convert a lead-contaminated site into a long-term recreational use.

None of the cumulative projects identified within Section 4.0 would have the potential to result in cumulatively considerable hazardous materials impacts. Cumulative projects within approximately one mile of the site (i.e., Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use Project) are not known to be affected by hazardous material conditions having the capacity to interact with the proposed project. Hazardous materials contamination that may exist as a result of the other cumulative project sites would be investigated and remediated on project-by-project basis, thereby precluding the potential for adverse effects related to hazardous materials health risks. Additionally, upon compliance with standard Federal, State, and local regulatory requirements, the proposed project and related cumulative development would not result in a significant cumulatively considerable impacts related to the release of hazardous materials or the transport, use, handling, or storage of hazardous materials. Impacts in this regard are less than significant.

Mitigation Measures: Refer to Mitigation Measures HAZ-1 through HAZ-3.

Level of Significance: Less Than Significant Impact with Mitigation Incorporated.

5.1.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts related to hazards and hazardous materials have been identified following implementation of the recommended mitigation measures.

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5.2 GEOLOGY AND SOILS

This section analyzes potential project impacts related to existing geological conditions and soil in the project area. Mitigation measures are recommended to avoid potential impacts or reduce them to a less than significant level. The discussion in this section is based on information and conclusions contained in the *Geotechnical and Geologic Report – Gun Range*, prepared by AESCO Technologies, Inc. (revised March 12, 2009), provided as Appendix 13.4, *Geotechnical and Geological Report*, of this EIR.

5.2.1 EXISTING SETTING

The 4.91-acre project site is located in the central portion of the City of Huntington Beach, within Huntington Central Park. The project site was previously owned by the County as part of a County-operated landfill, which closed in 1962. Following the landfill closure, the City was deeded the land. The Huntington Beach Police Officer's Association then utilized the site for a public and private gun range training facility. The entire gun range facility was closed in 1997 due to safety concerns. The site currently poses public health and safety hazards from potential landfill gas migration and lead contamination.

The site vicinity is fully developed and urbanized. The site is situated within Huntington Central Park, southwest of the intersection of Talbert Avenue and Gothard Street. The project site is surrounded by park and recreational uses to the north and west; vacant land and public facility uses to the east; and a former mining pit (Sully Miller Lake) and residential uses to the south.

EXISTING GEOLOGIC CONDITIONS

Regional Conditions

The project site is located within the City of Huntington Beach, which lies within the southern portion of the Los Angeles Basin. The project area is located within the transition area between the northern portion of the Peninsular Ranges physiographic province and the southern portion of the Traverse Ranges physiographic province. These physiographic provinces have contrasting tectonic characteristics that result in a complex tectonic environment known for active faulting and historic seismicity.

Site Conditions

The project site is located on the United States Geological Survey, S*eal Beach Quadrangle,* dated 1965, photo revised 1981. The project site is generally flat, with on-site elevations ranging from 50 feet above mean seal level (msl) to 66 feet above msl, generally sloping to the west. The site is covered with dirt, vegetation, and debris. Existing underground utilities may be present within the site boundaries. The southern edge of the site adjoins a steep slope bordering the northern edge of Sully Miller Lake. A sand pit is also noted on the S*eal Beach Quadrangle* to the south of the project site within Sully Miller Lake. An incised drainage channel borders the former gun range on the west. The northern and eastern edges of the site are bordered by relatively flat asphalt/ graded dirt road surfaces.

Geologic Materials

Subsurface

Ground surface geologic materials within the vicinity of the project site consist of Quaternary alluvial sediments deposited by the Santa Ana River or its tributaries. According to the *Huntington Beach General Plan EIR*, the surface geologic materials within the City consist of Tidal Flat Alluvium (Qya2), Younger Alluvial Material (Qya), and Older Alluvial Material (Qoa). The project site appears to be located in an area characterized by Older Alluvial Material. According to the *Geotechnical and Geological Report*, geologic materials which underlie the project site consist of Quarternary marine terrace deposits. These deposits consist of clay, sand, and clayey sand mixture deposited in the last 1.8 million years.

There are pockets of exposed trash on the ground surface of the project site due to underlying landfill materials. AESCO Technologies conducted nine hollow-stem augered borings at the project site to obtain information of the subsurface conditions of the site. The borings were backfilled with bentonite. Drive samples were taken in the borings using either a Standard Penetration Test (SPT) sampler or a Modified California (MC) sampler. The sampler was driven 18 inches into the bottom of the borehole using a 140-pound hammer falling a distance of 30 inches. Boring samples were tested in accordance with American Society for Testing and Materials (ASTM) Standards and California Test Methods. Laboratory testing consisted of water content, dry density, direct shear, expansion index, and washed sieve analysis. Table 5.2-1, *Subsurface Borings*, presents details of the subsurface borings and the results.

Table 5.2-1
Subsurface Borings

Boring Number	Total Boring Depth (feet below ground surface)	Material Encountered	Depth of Material (feet below ground surface)
B-1	30	Silty clay fill with gravel	3
		Medium dense to dense clayey sand	27
B-2	5	Medium dense silty sand fill with gravel	5
B-3	5	Stiff sandy silt fill with gravel	5
B-4	5	Loose clayey sand fill	5
B-5	5	Clayey sand with minor gravel	3
		Very stiff sancy clay	2
B-6	20	Loose to medium dense silty sand fill	8
		Medium dense to very dense silty sand fill	12
B-7	50	Medium dense to very dense silty sand fill	45
		Medium dense silty sand	5
B-8	50	Loose to very dense silty sand fill	43
		Medium dense to dense sand	7
B-9	50	Medium dense silty sand fill	5
		Medium stiff to very stiff sandy silt fill	45

Source: AESCO Technologies, Inc., *Geotechnical and Geologic Report - Gun Range*, revised March 12, 2009.

Large quantities of debris such as glass, wood, and organics from the former landfill were encountered within the fill material throughout the borings. Bedrock was not encountered at the time of the drillings, and is assumed to be present at a great depth due to the down warping of the Los Angeles Basin.

Topsoil

The subject site is underlain by Xeralfic Arents, which can be characterized as loamy with two to nine percent slopes.[1] These soils have a high runoff and erosion potential. However, the majority of these native soils were removed during the mining of sand and gravel prior to the site's use as a gun range facility, and Xeralific Arents may only be present along the easternmost portion of the site. The site is relatively flat and mostly underlain by a closed landfill. According to the *Geotechnical and Geologic Report*, there is very little topsoil at the project site.

Groundwater Conditions

According to the *Huntington Beach General Plan EIR*, near surface water depth in the project area is greater than 30 feet. As previously stated, borings on the project site were drilled up to 50 feet below ground surface. Groundwater was not encountered at the time of the borings. The highest historical groundwater level in the project vicinity is approximately 30 feet below ground surface, based on the California Geological Survey. However, the California Department of Water Resources maintains two nearby wells. Data from these wells indicates that historical high depth to groundwater has ranged from 0.5 feet (well located approximately two miles from the project site) to 51 feet (well located approximately 1.5 miles from the project site) below ground surface. Depth to groundwater varies depending on rainfall, groundwater recharge, and pumping activity within the site vicinity.

Mineral Resources

A gravel pit is noted to the south of the project site, within Sully Miller Lake, as depicted on the S*eal Beach Quadrangle*. The *Geotechnical and Geological Report* indicates that the project site was originally a sand and gravel pit that was later used as a waste disposal site. No economic metallic ore deposits exist within or adjacent to the project site. An active oil field (Huntington Beach Oil Field) is located approximately 1.5 miles southwest of the project site.

Landslides

Potential landslide areas within the City are limited to the mesa bluffs region. The proposed project site is relatively flat and is not located in the mesa bluffs region. The steep existing slopes around Sully-Miller Lake, to the south of the project site, are expected to be susceptible to earthquake-induced slope instability. The project site boundaries are outside of the existing slopes associated with Sully-Miller Lake. Therefore, the possibility of a landslide occurring at the project site is negligible.

[1] Soil Survey of Orange County and Western Part of Riverside County, California, U.S. Department of Agriculture, Soil Conservation Service and Forest Service, 1978.

Seismicity

The project site lies within the seismically active Southern California region that is subject to the effects of moderate to large earthquake events along major faults. Regional faults that could affect the project are the Newport-Inglewood Fault Zone (NIFZ), Compton-Los Alamitos Blind Thrust Fault, and the Palos Verdes, Whittier-Elsinore, and other active and potentially active faults associated with the San Andreas fault system. According to the *Geotechnical and Geological Report*, the regional faults closest to the site include the NIFZ, located about one mile away, and the Compton-Los Alamitos Blind Thrust (ramp) that is situated approximately four miles directly below the project area. The Palos Verdes, Whittier-Elsinore, and other faults of the San Andreas fault system are situated between nine to 48 miles from the site.

According to the 1999 Seismic Shaking Hazard Maps of California, the level of ground motion (measured in percent of gravity "g") at the site that has 1 chance in 475 of being exceeded each year is approximately 0.5g. This level of ground acceleration is equal to a 10 percent probability of being exceeded in 50 years, and considers all seismic sources within the southern California area.

Strong to severe ground shaking will be experienced at the project site if a large magnitude earthquake occurs on one of the nearby faults. Although, the number or frequency of these potential earthquakes in the project area cannot be accurately predicted, the probability exists that the project area will experience at least one major earthquake at some point during the next 50 years. The potential effects of ground shaking would depend on several factors, including the severity of the event, the nature, depth, and extent of the seismic event, the type of structure, and the local topography. Potential effects of ground shaking may include building foundation failure, underground tank or buried utilities failure, roadway blockage, fires, and contaminated water supply.

Historic Earthquakes

The San Andreas Fault Zone Complex and the Newport-Inglewood Fault Zone have historically produced many earthquakes of 5.0 Moment Magnitude (Mw) or greater in the last 200 years. At least 50 major earthquakes (greater than 5.0Mw) have occurred within 100 kilometers of the project site since the mid 18th century. Each of these major earthquakes has resulted in light to moderate damage to buildings and roads. Table 5.2-2, *Major Historic Earthquakes*, presents a summary of the significant (>6.0Mw) earthquakes that affected the project site.

Liquefaction

Liquefaction is a type of ground failure that occurs as a result of the generation of high pore water pressures during ground shaking, causing a loss of shear strength. The most typical areas in which carry the highest potential for liquefaction are those where loose sandy soils exist below groundwater. The project site is located within a potential liquefaction hazard zone, as designated by the California Geological Survey. These areas are considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. Geologic materials encountered at the project site generally consist of loose to very dense sand and silt fill material containing debris and native soils. Although groundwater was not encountered within the site borings (to a maximum depth of 50 feet), the historical high groundwater in the project area is approximately 30 feet below ground surface, according to the California Geological Survey.

Table 5.2-2
Major Historic Earthquakes

Date	Earthquake Moment Magnitude (Mw)	Approximate Distance from Site (kilometers)
March 11, 1933	6.30	9.7
July 11, 1855	6.30	45.4
May 15, 1910	6.00	55.6
December 16, 1858	7.00	57.1
January 17, 1994	6.70	75.4
July 30, 1894	6.00	76.3
July 23, 1923	6.25	77.0
December 19, 1880	6.00	77.3
July 22, 1899	6.50	81.2
December 8, 1812	7.00	81.2
April 4, 1893	6.00	86.5
February 9, 1971	6.40	87.2
April 21, 1918	6.80	92.7
December 25, 1899	6.40	93.2
September 24, 1827	7.0	98.0

Source: AESCO Technologies, Inc., *Geotechnical and Geologic Report - Gun Range*, revised March 12, 2009.

According to the *Geotechnical and Geological Report*, a liquefaction analysis was performed for the project site in accordance with the DMG Special Publication 117. The analysis assumed a depth to groundwater of 30 feet. The soils data collected from the boring log and laboratory results were used. Liquefaction potential was calculated from a depth of zero to 50 feet below ground surface. The factor of safety was greater than 1.5 with the exception of depths 31 feet where the factor of safety was between 0.34 and 0.43. The analysis and test results have concluded that the potential for liquefaction at the project site is high. Results indicate that seismically-induced settlement of saturated and dry sands is estimated to be 10 inches and differential settlement is estimated to be five to seven inches.

Lateral spreading occurs during an earthquake in a near-surface liquefiable soil layer. Based on the type of soil at the project site and the high potential for liquefaction, there is a high potential for lateral spreading to occur at the project site.

Expansive Soils

Expansive soils are clay-rich soils that can undergo a significant increase in volume with increased water content and a significant decrease in volume with a decrease in water content. Significant changes in moisture content within moderately to highly expansive soil can produce cracking, differential heave, and other adverse impacts on structures constructed on such soils. The *Geotechnical and Geologic Report* presents the results of two expansion index tests, which indicate that the soil at the project site is considered to have low expansion potential.

5.2.2 REGULATORY SETTING

FEDERAL LEVEL

The purpose of the Federal Soil Protection Act is to protect or restore the functions of the soil on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. If impacts are made on the soil, disruptions of its natural functions as an archive of natural and cultural history should be avoided, as far as practicable. In addition, the requirements of the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) through the National Pollution Discharge Elimination System (NPDES) provide guidance for protection of geologic and soil resources.

STATE LEVEL

Uniform Building Code

Development standards require projects to comply with appropriate seismic design criteria in the Uniform Building Code (UBC), adequate drainage facility design, and preconstruction soils and grading studies. The UBC also includes regulations regarding building near fills containing rubbish or other decomposable material.

California Building Code

California building standards are published in the California Code of Regulations, Title 24, known as the California Building Code (2010 CBC). The 2010 CBC applies to all applications for building permits. The 2010 CBC consists of 11 parts that contain administrative regulations for the California Building Standards Commission and for all State agencies that implement or enforce building standards. Local agencies must ensure that development complies with the guidelines contained in the 2010 CBC. Cities and counties have the ability to adopt additional building standards beyond the 2010 CBC.

5.2.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA SIGNIFICANCE CRITERIA

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist, which includes questions relating to hydrology, drainage 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 it causes one or more of the following to occur:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Section 10.0, *Effects Found Not to be Significant*);
- Strong seismic ground shaking;
- Seismic-related ground failure, including liquefaction; and
- Landslides (refer to Section 10.0, *Effects Found Not to be Significant*).

- Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill.

- 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 soils, as defined in Table 18-1 B of the Uniform Building Code (1994), creating substantial risks to life or property.

- 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 10.0, *Effects Found Not to be Significant*).

5.2.4 IMPACTS AND MITIGATION MEASURES

SEISMICITY

- **DEVELOPMENT OF THE PROPOSED PROJECT WOULD NOT EXPOSE PEOPLE/STRUCTURES TO SIGNIFICANT IMPACTS ASSOCIATED WITH SEISMIC SHAKING.**

Impact Analysis: The California Geological Survey does not delineate the project site as being within an Alquist-Priolo Earthquake Zone. However, there are three known active, or potentially active, faults within proximity of the project site. The Newport-Inglewood (L.A. Basin) Fault Zone, the Compton Thrust Fault, and the Newport-Inglewood (Offshore) Fault are located within approximately seven kilometers of the project site. Thus, the project site (similar to all of Southern California) may be subject to strong seismic ground shaking.

Although the project is located in seismically active Southern California, any potential future development would be designed in compliance with the seismic design standards of the 2010 CBC. All project grading and building plans would be subject to City review and approval. The site has limited structural load capability due to underlying landfill material, which would limit the extent of any structures and associated potential seismic impacts. Although a range of various long-term recreational uses may occur on-site (e.g., a children's playground, dog park, basketball courts, tennis courts, snack bar, picnic area, skate park, parking, restrooms, and various utilities), it is expected that only minor ancillary structures would be constructed such as a potential snack bar, shade structures, a restroom, and/or storage buildings. Additionally, the project does not propose any habitable structures that would expose people to potential effects of seismic ground shaking. In order to

reduce impacts from ground shaking, the project would be required to be designed in accordance with the 2010 CBC. Existing design standards within the CBC to minimize seismic hazards may include (but are not limited to) ground stabilization through densification of the soil in the upper five feet or through the installation of geogrid reinforcement. Therefore, with implementation of the 2010 CBC, impacts in this regard would be reduced to less than significant levels.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

SOIL INSTABILITY

- **THE PROPOSED PROJECT WOULD NOT EXPOSE PEOPLE OR STRUCTURES TO SIGNIFICANT ADVERSE IMPACTS FROM LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION, COLLAPSE, OR EXPANSIVE SOILS WITH RECOMMENDED MITIGATION AND COMPLIANCE WITH THE CALIFORNIA BUILDING CODE.**

Impact Analysis: The City's GIS database and the *Geotechnical and Geologic Report* both indicate that a potential for liquefaction exists beneath the subject site due to loose sandy soils beneath the groundwater at the project site. Also, as a layer of decomposing landfill refuse (estimated to be 35 feet in thickness) with highly compressible qualities exists beneath the site, the site is also subject to potential landfill material settlement. As such, the site may be prone to subsidence and collapse. Based on the soil type at the project site, historical depth to groundwater, and the liquefaction analysis, there is a high potential for liquefaction and/or lateral spreading to occur.

Given the flat topography at the project site, the risk of landslides is considered remote. In addition, the *Geotechnical and Geologic Report* indicates that on-site soils are considered to have a low expansion potential.

Any proposed structures would be subject to the 2010 CBC and City standard design requirements in regards to liquefaction, subsidence, and collapse and would have foundations designed in consideration of liquefaction and settlement constraints. Although a range of various long-term recreational uses may occur on-site (e.g., a children's playground, dog park, basketball courts, tennis courts, snack bar, picnic area, skate park, parking, restrooms, and various utilities), it is expected that only minor ancillary structures would be constructed such as a potential snack bar, shade structures, a restroom, and/or storage buildings. Mitigation Measure GEO-1 would require any new structures to be supported by a deep foundation system, designed to withstand negative dragdown. Compliance with the 2010 CBC and implementation of Mitigation Measure GEO-1 would reduce potential impacts associated with liquefaction and lateral spreading to less than significant levels.

Mitigation Measures:

GEO-1 Prior to issuance of a building permit, the Chief Building Official shall verify that any new structures are supported by a deep foundation system, such as driven piles or caissons. The foundation system shall be designated to withstand negative dragdown due to existing fill and to mitigate for liquefaction and lateral spreading. These foundation requirements shall be denoted on project plans for review and approval by the Chief Building Official.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

SOILS

Erosion

- **DEVELOPMENT OF THE PROPOSED PROJECT WOULD NOT RESULT IN SUBSTANTIAL SOIL EROSION AND LOSS OF TOPSOIL.**

Impact Analysis: Excavation, grading, and backfilling associated with project implementation is anticipated to generate erosive conditions that may include sediment laden storm run-off or dust. Appendix G of the Drainage Area Management Plan (DAMP) by the Orange County Stormwater Management Program states that for any construction site larger than one acre, a National Pollution Discharge Elimination System (NPDES) permit must be obtained from the Santa Ana Regional Water Quality Control Board (SARWQCB) for the construction process. Therefore, an NPDES permit would be required to be obtained from the SARWQCB since the project is approximately 4.91 acres in size. As part of the NPDES process, the project would also comply with the State of California general permit (including the submittal of a Notice of Intent to the SARWQCB) and would include the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will outline the source control and/or treatment control BMPs that would avoid or mitigate runoff pollutants at the construction site to the "maximum extent practicable." Implementation of best management practices (BMPs) as found in the Orange County NPDES Stormwater Program Drainage Area Management Plan (DAMP) and the Standard Specifications for Public Works Construction "Greenbook" which include such measures as use of sand bags and temporary dam building may be applied to sufficiently reduce sediment laden storm run-off. Additionally, area watering and limiting excavation, backfilling, and grading activities to non-windy days will sufficiently control the amount of particulate matter that may migrate off-site. As lead-impacted storm water runoff is a particular concern, the SWPPP would incorporate additional BMPs to contain soil erosion on-site, and also to halt any excavation/remediation activities during a rain event, including the export of soil off-site. Therefore, with adherence to SARWQCB requirements, impacts in this regard would be less than significant.

The existing project site has large areas of exposed soils, which currently generate wind and waterborne sediment. It is anticipated that the majority of the subject site would be either landscaped or paved, thereby reducing long-term operational wind/water erosion impacts to less than significant levels. In addition, the project would comply with typical City erosion control measures and those required through the NPDES program. Therefore, soil erosion under long-term operations of the proposed project would be less than existing conditions. Impacts in this regard would be less than significant.

Expansive Soils

- **DEVELOPMENT OF THE PROPOSED PROJECT WOULD NOT EXPOSE PEOPLE OR PROPERTY TO SIGNIFICANT EFFECTS ASSOCIATED WITH EXPANSIVE SOILS.**

Impact Analysis: According to the *Geotechnical and Geologic Report*, geologic materials which underlie the project site consist of Quarternary marine terrace deposits, which are comprised of clay, sand, and clayey sand mixture deposited in the last 1.8 million years. The *Geotechnical and Geologic Report*

found that the soil at the project site is considered to have low expansion potential based upon two expansion index tests. Therefore, project implementation would not be located on expansive soil, and would not create substantial risk to life or property. Impacts in this regard are less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.2.5 CUMULATIVE IMPACTS

- **THE PROPOSED PROJECT ALONG WITH OTHER RELATED FUTURE DEVELOPMENT WOULD NOT RESULT IN INCREASED GEOLOGY, SOILS, AND SEISMICITY IMPACTS IN THE AREA.**

Impact Analysis: The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. The project site is located within the central portion of the City. There are five identified cumulative projects within approximately one mile of the project site that have highest potential to interact with the proposed project, consisting of the proposed Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use Project. However, this analysis considers an additional 22 projects throughout the City in an effort to provide a conservative analysis of cumulative impacts.

As discussed above, the proposed project would result in less than significant impacts related to geology, soils, and seismicity with implementation of Mitigation Measure GEO-1, and compliance with the 2010 CBC and SARWQCB requirements.

None of the cumulative projects are located adjacent to the project site. The geotechnical characteristics of each cumulative project site would be evaluated on a project-by-project basis, and appropriate mitigation measures would be required, as necessary to reduce potential impacts to a less than significant level. The proposed project would be required to conform to applicable City criteria, adhere to standard engineering practices, and the 2010 CBC. Additionally, Mitigation Measure GEO-1 would require the project to incorporate engineering recommendations contained within the *Geotechnical and Geologic Report* to reduce impacts associated with seismicity and liquefaction to a less than significant level. Therefore, the project would not contribute to cumulative impacts and impacts in this regard are not cumulatively considerable.

Mitigation Measures: Refer to Mitigation Measure GEO-1.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.2.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to geology and soils have been identified following implementation of the recommended mitigation measures.

5.3 AIR QUALITY

This section focuses on potential short-term air quality impacts associated with project construction activities, and long-term local and regional air quality impacts associated with the project operation. Information in this section is based primarily on the Aerometric Data Analysis and Measurement System (ADAM) Air Quality Data Statistics (California Air Resources Board [CARB] 2009 through 2011); the *CEQA Air Quality Handbook* prepared by the South Coast Air Quality Management District (SCAQMD), April 1993 (as revised through November 1993); the *SCAQMD Final 2012 Air Quality Management Plan* (December 7, 2012); and the *Gun Range Remediation and Reuse Project Traffic Analysis* (*Traffic Analysis*) (March 2013), prepared by Stantec; refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for the assumptions used in this analysis.

5.3.1 EXISTING SETTING

SOUTH COAST AIR BASIN

Geography

The City of Huntington Beach is located in the South Coast Air Basin (Basin), a 10,743-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 nondesert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County.

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 man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall and topography all affect the accumulation and/or dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semiarid environment with mild winters, warm summers, moderate temperatures and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms or Santa Ana winds.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail

due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone (O_3) observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The area in which the project is located offers clear skies and sunshine, yet is still susceptible to air inversions. This traps a layer of stagnant air near the ground where it is further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust and a variety of chemical aerosols emitted by trucks, automobiles, furnaces and other sources.

LOCAL AMBIENT AIR QUALITY

Air Quality Monitoring Stations

The SCAQMD monitors air quality at 37 monitoring stations throughout the Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within an SRA are expected to have similar climatology and ambient air pollutant concentrations. The proposed project is in the City of Huntington Beach, which is located in SRA 18 (North Coastal Orange County). The monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations.

Pollutants Measured

The following air quality information briefly describes the various types of pollutants monitored at the Costa Mesa Monitoring Station (nearest monitoring station to the project site with CO, O_3, and NO_2 data) and the Anaheim Monitoring Station (next closest monitoring station to the project site with PM_{10} and $PM_{2.5}$ data). Air quality data from 2009 through 2011 is provided in Table 5.3-1, *Local Air Quality Levels*.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

Table 5.3-1
Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum[1] Concentration	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) (1-Hour)[2]	20 ppm For 1 hour	35 ppm For 1 hour	2009 2010 2011	2.70 ppm 2.44 2.91	0/0 0/0 0/0
Carbon Monoxide (CO) (8-Hour)[2]	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2009 2010 2011	2.16 ppm 2.09 2.22	0/0 0/0 0/0
Ozone (O_3) (1-Hour) [2]	0.09 ppm for 1 hour	NA[4]	2009 2010 2011	0.087 ppm 0.097 0.093	0/0 1/0 0/0
Ozone (O_3) (8-Hour) [2]	0.07ppm for 8 hours	0.075 ppm for 8 hours	2009 2010 2011	0.072 ppm 0.076 0.077	3/0 2/1 2/1
Nitrogen Dioxide (NO_2) [2]	0.18 ppm for 1 hour	0.053 ppm annual average	2009 2010 2011	0.065 ppm 0.070 0.061	0/NA 0/NA 0/NA
Particulate Matter (PM_{10})[3,5,6]	50 μg/m³ for 24 hours	150 μg/m³ for 24 hours	2009 2010 2011	97.4 μg/m³ 43.0 53.0	1/0 0/0 2/0
Fine Particulate Matter ($PM_{2.5}$)[3,6]	No Separate State Standard	35 μg/m³ for 24 hours	2009 2010 2011	64.5 μg/m³ 31.7 39.2	NM/5 NM/0 NM/2

ppm = parts per million
μg/m³ = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Costa Mesa monitoring station located at 2850 Mesa Drive East, Costa Mesa, California.
3. Measurements taken at the Anaheim monitoring station, which is the next closest monitoring site (located at 1630 Pampas Lane, Anaheim, California) to the project location with PM_{10} and $PM_{2.5}$ data.
4. The U.S. Environmental Protection Agency revoked the Federal 1-hour Standard in June of 2005.
5. PM_{10} exceedances are based on state thresholds established prior to amendments adopted on June 20, 2002.
6. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/welcome.html

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies) and patients with chronic hypoxemia (oxygen deficiency), as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO. Exposure to high levels of CO can slow reflexes and cause drowsiness, and result in death in confined spaces at very high concentrations. The State and Federal standard for CO is 9.0 ppm.

Nitrogen Dioxide. Nitrogen oxides (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air, may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

For NO_2, the Basin is designated as being in attainment under both State and Federal standards. The NO_2 ambient air quality standard was amended on February 22, 2007 to lower the State 1-hour standard to 0.18 ppm and establish a new Federal annual standard of 0.053 ppm.

Ozone. Ozone (O_3) occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" O_3 is a photochemical pollutant, and needs reactive organic compounds (ROGs), NO_X, and sunlight to form; therefore, ROGs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O_3. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache and nausea.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003 CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in

court and the implementation of the standard was blocked. However, upon appeal by the EPA, the U.S. Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide. Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with sulfur oxides (SO_X) and lead (Pb). Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than is the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools and parks.

Existing sensitive receptors located in the project vicinity include single and multi-family residential homes, schools, parks, places of worship and a hospital. Sensitive receptors can be seen below in Table 5.3-2, *Sensitive Receptors*.

5.3.2 REGULATORY FRAMEWORK

Regulatory oversight for air quality in the Basin rests with the SCAQMD at the regional level, CARB at the State level and the EPA Region IX office at the Federal level.

U.S. Environmental Protection Agency

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are O_3, CO, NO_2 (which is a form of nitrogen oxides [NO_X]), SO_2 (which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5

microns in diameter (PM_{10} and $PM_{2.5}$, respectively) and Pb; refer to Table 5.3-3, *National and California Ambient Air Quality Standards*.

Table 5.3-2
Sensitive Receptors

Type	Name	Distance from Project Site (miles)	Direction from Project Site
Residential	Residential Uses	0.71	North
		0.32	South
		0.32	East
		0.47	West
Schools	Mesa View Middle School	0.67	Northwest
	Hope View Elementary School	0.95	Northwest
	Schroeder Elementary School	0.93	North
	Oak View Elementary School	0.94	Northeast
	Continuation High School	0.94	North
Places of Worship	Seabreeze Church	0.23	East
	God's House	0.41	East
	Church of Religious Science	0.50	Northeast
	Jehovah's Witnesses	0.69	Northeast
	Surf City Synagogue	0.86	South
Parks	Huntington Central Park	0.00 - 0.68	On-Site and Surrounding
	Terry Park	0.44	East
	Harriett Wieder Regional Park	0.75	Southwest
	Hope View Park	0.95	Northwest
	Golden View Park	0.95	Northeast
	Oak View Center Park	0.95	Northwest
Hospitals	Huntington Beach Hospital	0.92	Northeast
	Pacifica Hospital	0.81	Southeast

Source: Google Earth 2012.

California Air Resources Board

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 5.3-3, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide and sulfates. The CCAA, which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for preparation of the SIP for the State of California.

Table 5.3-3
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[3,4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m³)	**Nonattainment**	N/A	N/A[5]
	8 Hours	0.070 ppm (137 μg/m³)	N/A	0.075 ppm (147 μg/m³)	**Extreme Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 μg/m³	**Nonattainment**	150 μg/m³	**Serious Nonattainment**
	Annual Arithmetic Mean	20 μg/m³	**Nonattainment**	N/A	**Serious Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 μg/m³	**Nonattainment**
	Annual Arithmetic Mean	12 μg/m³	**Nonattainment**	15.0 μg/m³	**Nonattainment**
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m³)	Attainment	9 ppm (10 mg/m³)	Unclassified/ Attainment/Maintenance
	1 Hour	20 ppm (23 mg/m³)	Attainment	35 ppm (40 mg/m³)	Unclassified/ Attainment/Maintenance
Nitrogen Dioxide (NO_2)[5]	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	**Nonattainment**	0.053 ppm (100 μg/m³)	Attainment/Maintenance
	1 Hour	0.18 ppm (339 μg/m³)	**Nonattainment**	100 ppb (188 μg/m³)	Attainment/Maintenance
Lead (Pb)[7,8]	30 days Average	1.5 μg/m³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 μg/m³	Attainment
	Rolling 3-Month Average	N/A	N/A	0.15 μg/m³	Attainment
Sulfur Dioxide (SO_2)[6]	24 Hours	0.04 ppm (105 μg/m³)	Attainment	0.14 ppm (for certain areas)	Attainment
	3 Hours	N/A	N/A	N/A	Attainment
	1 Hour	0.25 ppm (655 μg/m³)	Attainment	75 ppb (196 μg/m³)	N/A
	Annual Arithmetic Mean	N/A	N/A	0.30 ppm (for certain areas)	Attainment
Visibility-Reducing Particles[9]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m³	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m³)	Unclassified		
Vinyl Chloride[7]	24 Hour	0.01 ppm (26 μg/m³)	N/A		

μg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, 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.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site 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/m³ 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.
3. 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.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
6. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
7. 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.
8. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
9. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board and U.S. Environmental Protection Agency, June 7, 2012.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment.

Under the CCAA, the Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The Basin is designated as an attainment area for CO, NO_2, SO_2, and Pb; refer to Table 5.3-3. Similar to the FCAA, all areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates.

South Coast Air Quality Management District

The SCAQMD is one of 35 air quality management districts that have prepared AQMP's to accomplish a five-percent annual reduction in emissions. The *2012 Air Quality Management Plan* (*2012 AQMP*) relies on a multi-level partnership of governmental agencies at the Federal, State, regional, and local level. The *2012 AQMP* proposes policies and measures to achieve Federal and State standards for improved air quality in the Basin and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction.

The *2012 AQMP* includes new information on key elements such as:

- Current air quality;
- Improved emission inventories, especially significant increase in mobile source emissions;
- An overall control strategy comprised of: Stationary and Mobile Source Control Measures, SCAQMD, State and Federal Stationary and Mobile Source Control Measures, and the Southern California Association of Governments Regional Transportation Strategy and Control Measures;
- New attainment demonstration for $PM_{2.5}$ and O_3;
- Milestones to the Federal Reasonable Further Progress Plan; and
- Preliminary motor vehicle emission budgets for transportation conformity purposes.

In addition to the *2012 AQMP* and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook*. The SCAQMD *CEQA Air Quality Handbook* provides guidance to assist local government agencies and consultants in developing the environmental documents required by CEQA. With the help of the *CEQA Air Quality Handbook*, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and should be able to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current *CEQA Air Quality Handbook* approved by the SCAQMD Governing Board in 1993.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development and the environment. SCAG serves as the Federally designated metropolitan planning organization for the

Southern California region and is the largest metropolitan planning organization in the United States. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide for the region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the *2012 AQMP*. SCAG is responsible under the FCAA for determining conformity of projects, plans and programs with the SCAQMD.

5.3.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Under *CEQA*, the SCAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the FCAA, the SCAQMD has adopted federal attainment plans for O_3 and PM_{10}. The SCAQMD reviews projects to ensure that they would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

The *CEQA Air Quality Handbook* also provides significance thresholds for both construction and operation of projects within the SCAQMD jurisdictional boundaries. Exceedance of the SCAQMD thresholds could result in a potentially significant impact. However, ultimately the lead agency determines the thresholds of significance for impacts. If the project proposes development in excess of the established thresholds, as illustrated in Table 5.3-4, *SCAQMD Emission Thresholds*, a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts.

Table 5.3-4
SCAQMD Emissions Thresholds

Phase	Pollutant (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook,* November 1993.

LOCALIZED THRESHOLDS OF SIGNIFICANCE

Localized Significance Thresholds (LSTs) were developed in response to the SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (revised July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects. The SCAQMD provides the LST lookup tables for one, two, and five acre projects emitting CO, NO_X, particulate matter less than 10 microns in aerodynamic diameter (PM_{10}), and particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$). The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources

traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors.

CARBON MONOXIDE THRESHOLDS

In addition, the significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards. If the project causes an exceedance of either the state one-hour or eight-hour CO concentrations, the project would be considered to have a significant local impact. If ambient levels already exceed a State or Federal standard, then project emissions would be considered significant if they increase one-hour CO concentrations by 1.0 ppm or more, or eight-hour CO concentrations by 0.45 ppm or more. Refer to Table 5.3-5, *Federal and State Carbon Monoxide Standards*, for the applicable standards.

Table 5.3-5
Federal and State Carbon Monoxide Standards

Jurisdiction	Averaging Time	Carbon Monoxide (CO) Standard (parts per million)
Federal	1 Hour	35
	8 Hours	9
State	1 Hour	20
	8 Hours	9

Source: California Air Resources Board, *Ambient Air Quality Standards*, June 7, 2012, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

CUMULATIVE EMISSIONS

The SCAQMD's *2012 AQMP* was prepared to accommodate growth, meet state and federal air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. According to the SCAQMD *CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant unless there is pertinent information to the contrary.

If a project exceeds these emission thresholds, the SCAQMD *CEQA Air Quality Handbook* states that the significance of a project's contribution to cumulative impacts should be determined based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

CEQA THRESHOLDS

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended, and used by the City of Huntington Beach in its environmental review process. The Initial Study Checklist includes questions relating to air 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 it causes one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard;

- Expose sensitive receptors to substantial pollutant concentrations; and

- Create objectionable odors affecting a substantial number of people.

Based on these standards and thresholds, 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.

5.3.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

- **SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT WOULD RESULT IN SIGNIFICANT AND UNAVOIDABLE AIR POLLUTANT EMISSION IMPACTS.**

Impact Analysis: Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the proposed project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

The project proposes the remediation and reuse of the project site with construction of an open space/park element of Huntington Central Park. Construction activities would occur during site remediation as well as building construction for long-term reuse of the site.

Remediation

Construction activities associated with site remediation would include demolition, site preparation, and soil removal/grading. Remediation activities would occur over approximately three months (within construction Year 1). Remediation would result in the disturbance of approximately 4.91 acres. Site remediation would require the removal and export of approximately 15,000 cubic yards

of soil[1] and 516 tons of telephone poles. The analysis of daily construction emissions from remediation has been prepared utilizing the California Emissions Estimator Model (CalEEMod). Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for the CalEEMod modeling inputs and results. Table 5.3-6, *Short-Term (Year 1 Remediation) Emissions*, presents the anticipated unmitigated and mitigated daily short-term construction emissions per remediation phase.

Table 5.3-6
Short-Term (Year 1 Remediation) Emissions

Emissions Source	Emissions (pounds per day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Unmitigated						
Site Preparation						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	4.05	32.33	18.72	0.03	13.68	8.14
Demolition						
Soil/Material Hauling Emissions	0.84	9.38	4.37	0.02	39.16	0.40
Non-Soil/Material Hauling Emissions	5.99	46.47	29.7	0.05	3.62	2.31
Grading/Soil Removal						
Soil/Material Hauling Emissions	20.51	229.95	107.17	0.39	367.10	9.78
Non-Soil/Material Hauling Emissions	5.23	39.36	24.59	0.05	8.46	5.30
Highest Maximum Daily Emissions (Unmitigated)[2]	***25.74***	***269.32***	***131.76***	***0.44***	***375.56***	***15.08***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded?	***No***	***Yes***	***No***	***No***	***Yes***	***No***
Mitigated[3]						
Site Preparation						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	2.56	16.12	17.29	0.03	5.64	3.51
Demolition						
Soil/Material Hauling Emissions	0.84	9.38	4.37	0.02	39.16	0.4
Non-Soil/Material Hauling Emissions	3.88	24.54	29.48	0.05	2.93	1.77
Grading/Soil Removal						
Soil/Material Hauling Emissions	20.51	229.95	107.17	0.39	367.1	9.78
Non-Soil/Material Hauling Emissions	3.75	23.47	27.84	0.05	4.25	2.93
Highest Maximum Daily Emissions (Mitigated)[2]	***24.46***	***253.43***	***135.01***	***0.44***	***278.85***	***12.71***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded After Mitigation?	***No***	***Yes***	***No***	***No***	***Yes***	***No***

Notes:
1. Emissions calculated using the CalEEMod model. Soil/Material Hauling Emissions (emissions from trucks hauling soil and demolished material) are presented separately from Non-Soil/Material Hauling Emissions (emissions from worker trips, vendor trips, fugitive dust, and off-road equipment) in order to show that the majority of emissions are related to hauling.
2. For informational purposes this table presents the maximum daily emissions per phase (i.e., site preparation, demolition, and grading/soil removal). The highest maximum daily emissions represent the emissions occurring on the worst-case construction day throughout the given construction year; these are the emissions compared to the SCAQMD thresholds. Therefore, if the phases do not overlap, the highest daily emissions are not summed.
3. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD (Rule 403). The mitigation includes the following: replace ground cover on disturbed areas quickly, water exposed surfaces three times daily, and proper loading/unloading of mobile and other construction equipment. Mitigation also includes the use of cleaner engines in construction equipment for the reduction of NO_X (Mitigation Measures AQ-1 and AQ-4).

Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for assumptions used in this analysis.

[1] Note that the 15,000 cubic yards of soil to be removed during remediation differs from the 14,000 tons referenced in Section 3.0, *Project Description*, due to the differences in the units of measurements. The CalEEMod model requires the inputs to be in cubic yards.

Project Construction

Construction activities associated with the construction of the future park component would include demolition, site preparation/grading, paving, building construction, and architectural coating. Park construction is anticipated to last approximately six months (across construction Years 2 and 3). Project construction would result in the disturbance of approximately 4.91 acres. The analysis of daily construction emissions has been prepared using CalEEMod; refer to Appendix 13.5, for the CalEEMod modeling inputs and results. Table 5.3-7, *Short-Term (Years 2 and 3 Project Construction) Emissions*, presents the anticipated unmitigated and mitigated daily short-term construction emissions per construction phase.

Table 5.3-7
Short-Term (Years 2 and 3 Project Construction) Emissions

Emissions Source	Emissions (pounds per day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction Year 2						
Unmitigated						
Demolition						
Soil/Material Hauling Emissions	0.07	0.54	0.63	0.00	0.1	0.01
Non-Soil/Material Hauling Emissions	5.64	42.83	28.72	0.05	3.71	2.12
Grading/Site Preparation						
Soil/Material Hauling Emissions	1.33	13.85	8.51	0.03	28.25	0.62
Non-Soil/Material Hauling Emissions	4.91	35.9	23.96	0.05	8.28	5.11
Building						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	3.35	21.89	17.33	0.03	1.38	1.38
Highest Maximum Daily Emissions[2]	***6.24***	***49.75***	***32.47***	***0.08***	***36.53***	***5.73***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Mitigated[3]						
Demolition						
Soil/Material Hauling Emissions	0.07	0.54	0.63	0.00	0.1	0.01
Non-Soil/Material Hauling Emissions	5.71	43.37	29.35	0.05	3.81	2.13
Grading/Site Preparation						
Soil/Material Hauling Emissions	1.33	13.85	8.51	0.03	28.25	0.62
Non-Soil/Material Hauling Emissions	4.91	35.9	23.96	0.05	4.72	3.21
Building						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	3.35	21.89	17.33	0.03	1.38	1.38
Highest Maximum Daily Emissions[2]	***6.24***	***49.75***	***32.47***	***0.08***	***25.71***	***3.83***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
Construction Year 3						
Unmitigated						
Building						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	3.07	19.98	17.18	0.03	2.59	1.22
Paving						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	2.49	15.00	12.34	0.02	1.52	1.22

Table 5.3-7 [continued]
Short-Term (Years 2 and 3 Project Construction) Emissions

Emissions Source	Emissions (pounds per day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Coating						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	0.37	2.37	1.88	0.00	0.2	0.2
Highest Maximum Daily Emissions[2]	***3.07***	***19.98***	***17.18***	***0.03***	***1.71***	***1.41***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Mitigated[3]						
Building						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	3.07	19.98	17.18	0.03	2.59	1.22
Paving						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	2.49	15.00	12.34	0.02	1.52	1.22
Coating						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	0.37	2.37	1.88	0.00	0.20	0.20
Highest Maximum Daily Emissions[2]	***3.07***	***19.98***	***17.18***	***0.03***	***1.63***	***1.41***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions calculated using the CalEEMod model. Soil/Material Hauling Emissions (emissions from trucks hauling soil and demolished material) are presented separately from Non-Soil/Material Hauling Emissions (emissions from worker trips, vendor trips, fugitive dust, and off-road equipment) in order to show that the majority of emissions are related to hauling.
2. For informational purposes this table presents the maximum daily emissions per phase (i.e., demolition, grading/site preparation, building, paving, and coating). The highest maximum daily emissions represent the emissions occurring on the worst-case construction day throughout the given construction year; these are the emissions compared to the SCAQMD thresholds. Therefore, if the phases do not overlap, the highest daily emissions are not summed.
3. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD (Rule 403). The mitigation includes the following: replace ground cover on disturbed areas quickly, water exposed surfaces three times daily, and proper loading/unloading of mobile and other construction equipment. (Mitigation Measure AQ-1).

Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for assumptions used in this analysis.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust (PM_{10} and $PM_{2.5}$) emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways (including demolition as well as construction activities). Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations and weather conditions. Fugitive dust from demolition, grading, and construction is expected to be short-term and would cease upon project completion. Additionally, most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} (particulate

matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. Implementation of the recommended mitigation regarding dust control techniques (e.g., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), would reduce impacts of PM_{10} fugitive dust.

Fine Particulate Matter ($PM_{2.5}$) is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Mitigation Measures AQ-1 and AQ-2 would implement dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce PM_{10} and $PM_{2.5}$ concentrations below the SCAQMD thresholds. According to the modeling results in Table 5.3-6, the maximum daily mitigated PM_{10} and $PM_{2.5}$ emissions in construction Year 1 (remediation) would be 278.85 pounds per day (lbs/day) and 12.71 lbs/day, respectively. Mitigated PM_{10} emissions in construction Year 1 would exceed SCAQMD thresholds, and PM_{10} and $PM_{2.5}$ emissions in construction Years 2 and 3 would be below SCAQMD thresholds. Therefore, impacts related to PM_{10} during remediation would be significant and unavoidable as emissions would exceed SCAQMD thresholds even after implementation of Mitigation Measures AQ-1 and AQ-2.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. In accordance with the methodology prescribed by the SCAQMD, the ROG emissions associated with paving have been quantified with the CalEEMod model. In addition, based upon the size of the buildings, architectural coatings were also quantified within the CalEEMod model.

The greatest ROG emissions would be generated during the application of architectural coatings. As required by law, all architectural coatings for the proposed project structures would comply with SCAQMD Regulation XI, Rule 1113 – *Architectural Coating*.[2] Rule 1113 provides specifications on painting practices as well as regulates the ROG content of paint. Based on the modeling, the proposed project would not result in an exceedance of ROG emissions during remediation or project construction, and therefore would be considered a less than significant impact.

Construction Equipment, Worker Vehicle Exhaust, and Hauling

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks hauling soil and materials to and from the site. Emitted pollutants

[2] South Coast Air Quality Management District, http://www.aqmd.gov/rules/reg/reg11_tofc.html, November 10, 2004.

would include ROG, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Standard SCAQMD regulations, such as maintaining all construction equipment in proper tune, shutting down equipment when not in use for extended periods of time, and implementing SCAQMD Rule 403, would be adhered to. However, as noted within Table 5.3-6, unmitigated emissions would cause an exceedance of the SCAQMD's NO_X thresholds during construction Year 1 (remediation). Mitigation Measure AQ-3 would help reduce ozone precursors (NO_X and ROG) by maintaining engines in good condition and proper tune. Additionally, use of cleaner engines in construction equipment during remediation activities would help to reduce NO_X emissions. Therefore, Mitigation Measure AQ-4 would be required to reduce NO_X emissions from construction equipment to the maximum extent practicable.

However, as depicted in Table 5.3-6, the generation of NO_X and PM_{10} emissions during Year 1 (remediation) is almost entirely due to the use of haul trucks. The substantial emissions are a result of the truck travel distance and resulting vehicle miles traveled from the project site to the hazardous materials disposal site in Buttonwillow (163 miles one way). Therefore, Mitigation Measure AQ-5 includes SCAQMD recommended measures to help reduce emissions from heavy duty trucks. However, as the associated emissions reductions are not quantifiable at this time, NO_X and PM_{10} emissions from hauling would remain in exceedance of the SCAQMD significance thresholds. Thus, even with implementation of the Mitigation Measures AQ-3 though AQ-5, impacts related to NO_X and PM_{10} emissions during remediation would remain significant and unavoidable.

Total Daily Construction Emissions

In accordance with the SCAQMD recommendations, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. The greatest emissions would be generated during the excavation and removal of contaminated soil (construction Year 1). Additionally, the greatest amount of ROG emissions would typically occur during the final stages of development due to the application of architectural coatings.

The CalEEMod model allows the user to input mitigation measures such as watering the construction area to limit fugitive dust in the project area. Mitigation measures inputted within the CalEEMod model allow for certain reduction credits and result in a decrease of pollutant emissions. Reduction credits are based upon studies developed by CARB, the SCAQMD, and other air quality management districts throughout California, and were programmed within the CalEEMod model.

As indicated in Table 5.3-6, impacts would be significant and unavoidable for NO_X and PM_{10} emissions during construction Year 1 only, even with implementation of the recommended mitigation measures. Thus, construction related air emissions would be significant and unavoidable.

Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, Lead Agencies are encouraged to analyze potential impacts related to naturally occurring asbestos. Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), the proposed project is not located in an area where naturally occurring asbestos is likely to be present. Therefore impacts would be considered less than significant.

Localized Significance Thresholds

Appendix B of the *Final Localized Significance Threshold Methodology* (revised October 2009) provides look-up table references for projects of one, two, and five acres for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Based on the SCAQMD guidance on applying CalEEMod to LSTs, the project would disturb no more than two acres of land per day; therefore, the LST thresholds for two acres were utilized for the construction LST analysis. The closest sensitive uses to the project site are the recreational uses located approximately 25 meters to the west. Thus, the LST thresholds for 25 meters were utilized. Table 5.3-8, *Summary of Localized Significance of Construction Emissions*, shows the construction-related emissions of NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the SCAQMD screening values for North Coastal Orange County (Source Receptor Area 18).

Table 5.3-8
Summary of Localized Construction Emissions

Construction Phase	Emissions (pounds per day)[1]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Year 1 (Remediation)				
Unmitigated On-Site Emissions	46.38	28.87	13.55	8.13
Localized Significance Threshold[2]	*131*	*962*	*7*	*5*
Is Threshold Exceeded?	***No***	***No***	***Yes***	***Yes***
Mitigated On-Site Emissions	23.37	26.84	5.51	3.50
Localized Significance Threshold[2]	*131*	*962*	*7*	*5*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***
Year 2 (Project Construction)				
Unmitigated On-Site Emissions	42.75	27.91	7.99	5.09
Localized Significance Threshold[2]	*131*	*962*	*7*	*5*
Is Threshold Exceeded?	***No***	***No***	***Yes***	***Yes***
Mitigated On-Site Emissions	42.75	27.91	4.43	3.19
Localized Significance Threshold[2]	*131*	*962*	*7*	*5*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***
Year 3 (Project Construction)				
Unmitigated On-Site Emissions	19.98	17.18	1.22	1.22
Localized Significance Threshold[2]	*131*	*962*	*7*	*5*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***
Mitigated On-Site Emissions	19.98	17.18	1.22	1.22
Localized Significance Threshold[2]	*131*	*962*	*7*	*5*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***

Note:
1. Emissions calculated using the CalEEMod model. The worst-case maximum daily on-site emissions are reported.
2. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately 2 acres; therefore the 2-acre threshold was used), the total acreage for operational (5-acre threshold), the distance to sensitive receptors (25 meters), and the source receptor area (SRA 18).

As shown in Table 5.3-8, mitigated construction emissions would not exceed the SCAQMD localized thresholds during any of the three construction years. Therefore, neither project remediation nor construction would expose the closest sensitive receptors to substantial pollutant concentrations. Thus, with implementation of Mitigation Measures AQ-1 through AQ-5, localized air emissions would be reduced to less than significant levels.

Mitigation Measures:

AQ-1 Prior to issuance of any Grading Permit, the City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust;
- Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance;
- Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered twice daily, or non-toxic soil binders shall be applied;
- All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour;
- Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area;
- Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes. Alternatively a wheel washer shall be used at truck exit routes;
- On-site vehicle speed shall be limited to 15 miles per hour;
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; and
- Reroute construction trucks away from congested streets or sensitive receptor areas.

AQ-2 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114 (*Spilling Loads on Highways*), with special attention to Sections 23114(b)(F), (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Prior to the issuance of grading permits, the Applicant shall demonstrate to the City of Huntington Beach City Engineer how the project operations subject to that specification during hauling activities shall comply with the provisions set forth in Sections 23114(b)(F), (e)(4).

AQ-3 Prior to issuance of any Grading Permit, the City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, O_3 precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City. Maintenance records shall be provided to the City by the construction contractor on a monthly basis. The City shall be responsible for ensuring that contractors comply with this measure during construction. Contract specifications shall be included in the project construction documents which shall be reviewed and approved by the City prior to issuance of a grading permit.

AQ-4 The following measures shall be implemented during remediation to substantially reduce NO_X related emissions. They shall be included in the Grading Plan and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

- Off-road diesel equipment operators shall be required to shut down their engines rather than idle for more than five minutes, and shall ensure that all off-road equipment is compliant with the CARB in-use off-road diesel vehicle regulation and SCAQMD Rule 2449.

- Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet EPA 2007 model year NO_X emissions requirements

- The following note shall be included on all grading plans: During remediation, all internal combustion engines/construction, equipment operating on the project site shall meet EPA-Certified Tier 3 emissions standards, or higher according to the following:

  - January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

  - Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted

with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

- A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

- The remediation and construction contractors shall maintain construction equipment engines by keeping them tuned and regularly serviced to minimize exhaust emissions.

- Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.

- Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators.

- Configure construction parking to minimize traffic interference.

- Minimize obstruction of through-traffic lanes and provide temporary traffic controls such as a flag person during all phases of construction when needed to maintain smooth traffic flow. Construction shall be planned so that lane closures on existing streets are kept to a minimum.

- Schedule construction operations affecting traffic for off-peak hours to the best extent when possible.

- Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service.)

- Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.

AQ-5 The following SCAQMD recommended measures shall be implemented for hauling activities related to soil remediation and demolition to substantially reduce NO_X related emissions. They shall be included in the Grading Plan and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

- All heavy duty trucks utilized for hauling shall meet or exceed EPA 2007 engine emission standards.

- Beginning in 2015, all heavy duty trucks utilized for hauling shall meet or exceed EPA 2010 engine emission standards.

- If the above clean truck requirements are infeasible, a phase-in schedule shall be put forth that shall feasibly achieve emission reductions as soon as possible.

- The contractor shall maintain a log of all hauling trucks entering the project site to ensure that on average, the daily truck fleet meets the selected EPA emission standards. This log shall be available for inspection by City staff at any time.

- Prohibit all vehicles and trucks from idling in excess of five minutes, both on- and off-site.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

● LONG-TERM OPERATION OF THE PROPOSED PROJECT WOULD NOT RESULT IN SIGNIFICANT AIR POLLUTANT EMISSIONS IMPACTS.

Impact Analysis: Operational emissions generated by both stationary and mobile sources would result from normal daily activities on the project site after occupation (i.e., increased loads of O_3, PM_{10}, and CO). Area source emissions are generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment, and the use of consumer products. Energy emissions are related to electrical energy demand of the proposed project. Mobile emissions would be generated by the motor vehicles traveling to and from the project site. Emissions associated with each of these sources were calculated and are discussed below.

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

As previously discussed, the Basin is a nonattainment area for Federal and State air quality standards for PM_{10}, $PM_{2.5}$, and O_3. NO_X and ROG are regulated O_3 precursors. A precursor is defined as a directly emitted air contaminant that, when released into the atmosphere, forms or causes to be formed, or contributes to the formation of, a secondary air contaminant for which an ambient air quality standard has been adopted. Project-generated vehicle emissions have been estimated using the CalEEMod model. This model predicts ROG, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions from motor vehicle traffic associated with new or modified land uses; refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for model input values used for this project with the model output.

According to the *Traffic Analysis*, long-term reuse of the project site would generate 594 average daily trips; refer to Appendix 13.9, *Traffic Analysis*. Table 5.3-9, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions associated with average daily weekend trips (worst-

case scenario). As shown in Table 5.3-9, emissions generated by vehicle traffic associated with the proposed project would not exceed established SCAQMD thresholds.

Table 5.3-9
Long-Term Operational Air Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area Source Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Energy Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Emissions	2.68	4.94	23.86	0.05	5.83	0.42
Total Emissions	2.68	4.94	23.86	0.05	5.83	0.42
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded? (Significant Impact?)	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Based on CalEEMod modeling results, worst-case seasonal emissions have been modeled.

Area and Energy Source Emissions

Area and energy source emissions would be generated due to an increased demand for electrical energy and natural gas with the development of the proposed improvement. This assumption is based on the supposition that those power plants supplying electricity to the site are utilizing fossil fuels. Electric power generating plants are distributed throughout the Basin and western United States, and their emissions contribute to the total regional pollutant burden. The primary use of natural gas by the proposed land uses would be for combustion to produce space heating, water heating, other miscellaneous heating, or air conditioning, consumer products, and landscaping. It is noted that the CalEEMod model does not assume any area and energy source emissions are generated in association with recreational uses, as the emissions would be negligible. As shown on Table 5.3-9, area and energy source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Thus, a less than significant impact would occur.

Odors

The science of odor as a health concern is still new. Merely identifying the hundreds of ROGs that cause odors poses a big challenge. Offensive odors can potentially affect human health in several ways. Typically, odorant compounds irritate the eyes, nose and throat, which can reduce respiratory volume. Secondly, the ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors. The potential

source of odors would be new trash receptacles on the project sites. However, all new trash receptacles would be required to have lids, which would limit odors emanating from the receptacles. Thus, impacts related to odors would be less than significant.

Localized Operational Emissions

Localized operational emissions represent the maximum emissions from a project that would not 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.

Localized operational emissions at the project site are compared only to area and energy source emissions since the SCAQMD methodology does not account for mobile source emissions. Rather, performing a carbon monoxide hotspots analysis assesses localized mobile source impacts. The distance from the project site to the nearest sensitive receptor (25 meters) was utilized for the localized operational analysis. Also, this analysis utilizes the LST threshold values for a five-acre site, as the project site totals 4.91 acres. As indicated in Table 5.3-10, *Summary of Localized Significance of Operational Emissions*, the project would not result in localized area source emissions from the proposed project and thus, would not exceed the SCAQMD thresholds. Therefore, localized emissions from the proposed project would be less than significant.

Table 5.3-10
Summary of Localized Significance of Operational Emissions

Emissions Source	Pollutant (pounds/day)[1]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Source Emissions	0.00	0.00	0.00	0.00
Localized Significance Threshold[2]	*197*	*1,711*	*4*	*2*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. Emissions calculated using the CalEEMod model as recommended by the SCAQMD.
2. The Local Significance Threshold was determined using Appendix C of the SCAQMD Final Localized Significant Threshold Methodology guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold is based on the developed project acreage (5 acres), the source receptor area (SRA 18), and distance to nearest sensitive receptor (25 meters).

Intersection Carbon Monoxide Hotspots

The SCAQMD requires a quantified assessment of CO hotspots when a project increases the volume to capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service (LOS) D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hotspots are typically produced at intersection locations.

According to the project's *Traffic Impact Analysis*, all study intersections currently operate at acceptable LOS C or better. However, with project implementation, one of the study intersections (Beach Boulevard/Talbert Avenue) would operate at LOS F under the 2030 with project scenario.

Table 5.3-11, *Carbon Monoxide Levels at Surrounding Intersections*, provides a CO hotspot analysis for this intersection.

Table 5.3-11
Carbon Monoxide Levels at Surrounding Intersections

Intersection	1-Hour CO (ppm) [1]		8-Hour CO (ppm)	
	1-Hour Standard[2]	Future Plus Project	8-Hour Standard[3]	Future Plus Project
Beach Boulevard/Talbert Avenue	20 ppm	3.40	9 ppm	2.92

Notes:
1 – As measured at a distance of 10 feet from the corner of the intersection predicting the highest value. Presented 1-hour CO concentrations include a background concentration of 2.91 ppm. Eight-hour concentrations are based on a persistence of 0.86 of the 1-hour concentration.
2 – The State 1-hour standard is 20 ppm. The Federal standard is 35 ppm. The most stringent standard is reflected in the Table.
3 – The State 8-hour and Federal 8-hour standard is 9 ppm.

The projected traffic volumes were modeled using the BREEZE ROADS dispersion model. The resultant values were then added to an ambient concentration. A receptor height of 1.8 meters was used in accordance with the EPA's recommendations. The calculations assume a meteorological condition of almost no wind (0.5 meters/second), a flat topological condition between the source and the receptor and a mixing height of 1,000 meters. A standard deviation of five degrees was used for the deviation of wind direction. The suburban land classification was used for the aerodynamic roughness coefficient. This follows the BREEZE ROADS user's manual definition of suburban as "regular coverage with large obstacles, open spaces roughly equal to obstacle heights, villages, mature forests." All of the above parameters are based on the standards stated in the *Transportation Project-Level Carbon Monoxide (CO Protocol)*, December 1997.

For the purposes of this analysis, the ambient concentration used in the modeling was the highest one-hour measurement from the past three years of SCAQMD monitoring data at the Costa Mesa Monitoring Station. Actual future ambient CO levels may be lower due to emissions control strategies that would be implemented between now and the project buildout date. Due to changing meteorological conditions over an eight-hour period which diffuses the local CO concentrations, the eight-hour CO level concentrations have been found to be typically proportional and lower than the one-hour concentrations, where it is possible to have stable atmospheric conditions last for the entire hour. Therefore, eight-hour CO levels were calculated using the locally derived persistence factor as stated in the CO Protocol. The local persistence factor is derived by calculating the highest ratio of eight-hour to one-hour maximum locally measured CO concentrations from the most recent three years of data. Year 2010 has the highest eight-hour to one-hour ratio of 0.86.

As indicated in Table 5.3-11, CO concentrations at the study intersection requiring a CO hotspot analysis would be well below the state and federal standards. The modeling results are compared to the CAAQS for CO of 9 ppm on an 8-hour average and 20 ppm on a 1-hour average. Neither the 1-hour average nor the 8-hour average would be equaled or exceeded. Impacts in regards to intersection CO hot spots would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

5.3.5 CUMULATIVE IMPACTS

SHORT-TERM CUMULATIVE IMPACTS

- **SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED CUMULATIVE PROJECTS WOULD RESULT IN SIGNIFICANT AND UNAVOIDABLE SHORT-TERM AIR QUALITY IMPACTS.**

Impact Analysis: The SCAQMD neither recommends quantified analyses of cumulative construction or operational emissions, nor does it provide separate methodologies or thresholds of significance to be used to assess cumulative construction impacts. Instead, the SCAQMD recommends that a project's potential contribution to cumulative impacts should be assessed using the same significance criteria as those for project-specific impacts. Therefore, individual development projects that generate construction-related or operational emissions that exceed the SCAQMD recommended daily thresholds for project-specific impacts would also cause a cumulative considerable increase in emissions for those pollutants for which the Basin is nonattainment.

Of the projects that have been identified within the proposed project study area, these projects have not been built or are currently under construction. Since the City has no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain the daily construction emissions that assumes multiple, concurrent construction would be speculative.

With respect to the proposed 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 *2012 AQMP* pursuant to Federal Clean Air Act mandates. As such, the proposed project would comply with SCAQMD Rule 403 and Rule 1113 requirements, and implement all feasible mitigation measures. In addition, the proposed project would comply with adopted *2012 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 *2012 AQMP* emissions control measures) would also be imposed on construction projects throughout the Basin, which would include each of the related projects mentioned above.

Although compliance with SCAQMD rules and regulations would reduce construction-related impacts, the project-related construction emissions have been concluded to be significant and unavoidable for NO_X and PM_{10} emissions during construction Year 1 (remediation). Thus, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would deteriorate the local air quality and lead to a cumulative construction-related impact. Therefore, even with the implementation of Mitigation Measures AQ-1 through AQ-5, significant and unavoidable cumulative construction air quality impacts would result.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-5.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

LONG-TERM CUMULATIVE IMPACTS

- **LONG-TERM OPERATIONS ASSOCIATED WITH THE PROPOSED PROJECT AND RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN SIGNIFICANT LONG-TERM AIR QUALITY IMPACTS.**

Impact Analysis: As previously stated, the SCAQMD neither recommends quantified analyses of cumulative construction or operational emissions, nor does it provide separate methodologies or thresholds of significance to be used to assess cumulative construction or operational impacts. However, if individual development projects generate operational emissions that exceed the SCAQMD recommended daily thresholds for project-specific impacts, they would also cause a cumulative considerable increase in emissions for those pollutants for which the Basin is nonattainment.

According to Table 5.3-9, the proposed project would not exceed the SCAQMD's thresholds of significance for regional criteria pollutants. Additionally, the proposed project would not exceed the mobile source (CO hotspots) standards; refer to Table 5.3-11. Therefore, cumulative operational impacts associated with the proposed operation of the project would be less than significant for regional and localized emissions.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less than Significant Impact.

5.3.6 SIGNIFICANT UNAVOIDABLE IMPACTS

Implementation of the proposed project would result in a significant and unavoidable impact for the following areas:

- Regional Construction Related Emissions – As shown in Table 5.3-6, activities related to construction of the project would exceed the SCAQMD daily emission threshold for regional NO_X and PM_{10} during construction Year 1 after implementation of all feasible mitigation measures. Therefore, the construction of the project would have a significant and unavoidable impact on regional air quality. Construction emissions would not exceed the SCAQMD significance threshold for ROG, SO_X, CO, and $PM_{2.5}$.

- Cumulative Short-Term Construction-Related Emissions – As stated above, construction activities would create a significant and unavoidable impact due to exceedances of SCAQMD regional thresholds for NO_X and PM_{10} during construction Year 1. Implementation of recommended mitigation measure AQ-1 through AQ-5 would reduce impact; however a significant and unavoidable impact would remain.

If the City of Huntington Beach approves the project, the City shall be required to cite their findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with Section 15093 of CEQA.

5.4 GREENHOUSE GAS EMISSIONS

This section evaluates greenhouse gas (GHG) emissions associated with the proposed project and analyzes project compliance with applicable regulations. Consideration of the project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is included in this section. GHG technical data is included as Appendix 13.5, *Air Quality and Greenhouse Gas Data*.

5.4.1 EXISTING SETTING

The project site lies within the southern portion of the South Coast Air Basin (Basin). The Basin is a 6,600-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. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The climate is mild and 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 man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

SCOPE OF ANALYSIS FOR CLIMATE CHANGE

The study area for climate change and the analysis of GHG emissions is broad as climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact which may be caused by the project.

The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that have grown more than 70 percent between 1970 and 2004. The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis for this project relies on guidelines, analyses, policy, and plans for reducing GHG emissions established by the California Air Resources Board (CARB). This analysis also cites and relies on local air quality management district recommendations from the South Coast Air Quality Management District (SCAQMD) for CEQA assessment of GHG emissions.

GLOBAL CLIMATE CHANGE – GREENHOUSE GASES

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[1] The greenhouse effect traps heat in the troposphere through a three fold process as follows: Short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHG in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and carbon dioxide (CO_2). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation.

GHGs include, but are not limited to, the following:[2]

- *Water Vapor (H2O)*. Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

  The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a GWP for water vapor.

- *Carbon Dioxide (CO2)*. Carbon Dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of CO_2 in the atmosphere has increased 39 percent.[3] Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.

- *Methane (CH4)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation (the digestive process in animals with a rumen, typically cattle, causing methane gas). Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

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[1] The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

[2] All Global Warming Potentials are given as 100-year Global Warming Potential. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).

[3] U.S. Environmental Protection Agency, *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2010* April 2012.

- *Nitrous Oxide (N2O)*. Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production (for the industrial production of nylon), and nitric acid production (for rocket fuel, woodworking, and as a chemical reagent). The GWP of nitrous oxide is 310.

- *Hydrofluorocarbons (HFCs)*. HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.[4]

- *Perfluorocarbons (PFCs)*. Primary aluminum production and semiconductor manufacturing are the largest known man-made sources of two perfluorocarbons: tetrafluoromethane (CF_4) and tetrafluoromethane (C_2F_6). Perfluorocarbons are potent GHGs with a Global Warming Potential several thousand times that of CO_2, depending on the specific PFC. PFCs are also relatively minor substitutes for ozone-depleting substances. The estimated atmospheric lifetimes for CF_4 and C_2F_6 are 50,000 and 10,000 years respectively. The GWPs of CF_4 and C_2F_6 emissions are approximately 6,500 and 9,200, respectively.[5]

- *Sulfur hexafluoride (SF6)*. Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [PPT] in 1990 versus 365 parts per million [PPM], respectively).[6]

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O_3) depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- *Hydrochlorofluorocarbons (HCFCs)*. HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The GWPs of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.[7]

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[4] United States Environmental Protection Agency, *Greenhouse Gas Emissions*, June 14, 2012. http://epa.gov/climatechange/ghgemissions/gases/fgases.html, accessed on January 8, 2013.
[5] Ibid.
[6] Ibid.
[7] United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, dated October 29, 2009. http://www.epa.gov/EPA-AIR/1996/January/Day-19/pr-372.html, accessed on January 8, 2013.

- *1,1,1 trichloroethane*. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of CO_2.[8]

- *Chlorofluorocarbons (CFCs)*. CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the United States Environmental Protection Agency's (EPA's) Final Rule (57 FR 3374) for the phase out of O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with GWPs ranging from 4,000 for CFC 11 to 14,000 for CFC 13.[9]

5.4.2 REGULATORY SETTING

FEDERAL

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States is a strong supporter of activities under the United Nations Framework Convention on Climate Change (UNFCCC) and the IPCC.

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In December 2007, Congress passed the first increase in corporate average fleet fuel economy (CAFE) standards. The new CAFE standards represent an increase to 35 miles per gallon (mpg) by 2020. In March 2009, the Obama Administration announced that for the 2011 model year, the standard for cars and light trucks will be 27.3 mpg, the standard for cars will be 30.2 mpg; and standard for trucks would be 24.1 mpg. Additionally, in May 2009 President Barack Obama announced plans for a national fuel-economy and GHG emissions standard that would significantly increase mileage requirements for cars and trucks by 2016. The new requirements represent an average standard of 39 mpg for cars and 30 mpg for trucks by 2016.

In September 2009, the EPA finalized a GHG reporting and monitoring system that began on January 1, 2010. In general, this national reporting requirement will provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO_2 per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective emissions reduction strategies. This new program covers approximately 85 percent of the nation's GHG emissions and applies to

[8] Ibid.
[9] United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 19, 2010. http://www.epa.gov/ozone/ods.html, accessed on February 19, 2013.

approximately 10,000 facilities. The reporting system is intended to provide a better understanding of where GHGs are coming from and will guide development of the best possible policies and programs to reduce emissions.

Currently, the EPA is moving forward with two key climate change regulatory proposals, one to establish a mandatory GHG reporting system and one to address the 2007 Supreme Court decision in Massachusetts v. EPA (Supreme Court Case 05-1120) regarding the EPA's obligation to make an endangerment finding under Section 202(a) of the Federal Clean Air Act (FCAA) with respect to GHGs. Massachusetts v. EPA was argued before the United States Supreme Court on November 29, 2006. Under the FCAA, the EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation. However, as of January 2011 there are no Federal regulations or policies regarding GHG emissions applicable to the proposed project.

STATE

California Global Climate Change Regulatory Programs

Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring, and that there is a real potential for severe adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made

up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy. This will result in consistent guidance from experts on how to address climate change impacts in the State of California.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-20-04. Executive Order S-20-04, the California Green Building Initiative, (signed into law on December 14, 2004), establishes a goal of reducing energy use in State-owned buildings by 20 percent from a 2003 baseline by 2015. It also encourages the private commercial sector to set the same goal. The initiative places the California Energy Commission (CEC) in charge of developing a building efficiency benchmarking system, commissioning and retro-commissioning (commissioning for existing commercial buildings) guidelines, and developing and refining building energy efficiency standards under Title 24 to meet this goal.

Executive Order S-21-09. Executive Order S-21-09, 33 percent Renewable Energy for California, directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002) which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006) which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State."

To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. When fully phased in, the near-term standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards will result in a reduction of about 30 percent.

Assembly Bill 3018. AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC will develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy. This bill will ignite the development of job training programs in the clean and green technology sectors.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in *CEQA Guidelines* Section 15064.7 that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010.

Senate Bill 375. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or

APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding programmed after January 1, 2012.

Senate Bills 1078 and 107. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Senate Bill 1368. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas–fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

CARB Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce CO_2eq emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO_2eq[10] under a business as usual (BAU)[11] scenario. This is a reduction of 42 million MT CO_2eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

In *Association of Irritated Residents v. California Air Resources Board*, the Superior Court of California for the County of San Francisco (Superior Court) issued a "tentative statement of decision" (Tentative Decision) that prevents CARB from implementing a state-wide GHG regulatory program under AB 32 until the agency complies with the requirements of CEQA. The Tentative Decision partially grants a petition for a writ of mandate brought by a coalition of environmental justice organizations (Petitioners) that alleged that CARB's Scoping Plan violated both AB 32 and CEQA. Although the Superior Court denied all claims related to AB 32, the court found that CARB: 1) failed to adequately discuss and analyze the impacts of alternatives in its proposed Scoping Plan as required

[10] Carbon Dioxide Equivalent (CO_2eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

[11] "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See http://www.arb.ca.gov/cc/inventory/data/forecast.htm. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

by its CEQA implementing regulations; and 2) improperly approved the Scoping Plan prior to completing the environmental review required by CEQA. In upholding the Petitioners' challenge on these two CEQA issues, the Superior Court issued a Peremptory Writ of Mandate and enjoined CARB from further implementation of the Scoping Plan until it complies with all CEQA requirements. Parties to the case had 15 days from the issuance of the Tentative Decision to file objections before the Superior Court issued a final decision in the case.

On March 18, 2011, the Superior Court issued its Final Statement of Decision, which is substantially similar to the Tentative Decision. The Superior Court ruled in favor of CARB concerning AB 32 mandates and how to best reach the GHG reduction goals set by AB 32. However, the Superior Court determined that CARB failed to conduct adequate CEQA review for the Scoping Plan. Specifically, the Superior Court concluded that CARB failed to consider adequate alternatives to the mix of measures adopted in the Scoping Plan, including especially alternatives to cap-and-trade measures, and that CARB improperly began implementing the Scoping Plan measures before its CEQA review process was complete. Therefore, the Superior Court has suspended any further implementation of the measures contained in the Scoping Plan until the State has complied with CEQA.

On June 19, 2012, the California First District Court of Appeal ruled in favor of CARB and upheld the Scoping Plan. The decision also found the Scoping Plan to be in compliance with AB 32. The Court determined the entirety of the Scoping Plan "reflects an exercise of sound judgment" and was not arbitrary or capricious.

LOCAL

South Coast Air Quality Management District

The SCAQMD adopted a *Policy on Global Warming and Stratospheric Ozone Depletion* in April 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of CFCs, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of HCFCs by the year 2000;
- Develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

The legislative and regulatory activity detailed above is expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

City of Huntington Beach

The City of Huntington Beach has prepared the *City of Huntington Beach Energy Action Plan* (*EAP*) (dated April 2011), and the *Steps Toward a Sustainable Huntington Beach* document (*Sustainability Report*), which are further discussed below.

City of Huntington Beach Energy Action Plan

The City's *EAP* outlines the City's history and commitment to eliminating energy waste, preparing for peak oil production, and reducing GHG emissions. As part of the City's obligation under AB 32 to reduce GHG emissions by 20 percent, the City's facilities energy savings goal is to reduce energy use by 20 percent from a 2005 baseline. The *EAP* identifies several ways the City could reduce energy consumption, including a variety of incentives and programs, as well as community based social marketing. There are several planned energy efficient projects within the City which would result in substantial energy savings, including lighting upgrades, heating, ventilation, and air conditioning (HVAC) unit upgrades, furnace replacements, and installation of programmable thermostats. The *EAP* notes that future policy-making for the City will focus on the benefits of a cleaner environment, eliminating energy waste, and improving energy effectiveness. In order to track progress, the City will monitor energy usage and track energy reduction with the use of an Enterprise Energy Information Management System.

Steps Toward a Sustainable Huntington Beach

The City's *Sustainability Report* discusses the importance of sustainability to the City's residents, business community, and visitors. The *Sustainability Report* identifies the following examples of City environmental initiatives: alternative transportation, waste reduction, energy waste reduction, green incentives, solar installation, water efficiency, and wastewater recycling. Recommended practices for citizens to assist the City in achieving optimal sustainability regarding energy efficiency, water efficiency, and pollution prevention are included in the *Sustainability Report*. There are also recommended energy efficiency, water efficiency, and pollution prevention guidelines for businesses and restaurants.

5.4.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA SIGNIFICANCE CRITERIA

At this time, there is no absolute consensus in the State of California among CEQA lead agencies regarding the analysis of global climate change and the selection of significance criteria. In fact, numerous organizations, both public and private, have released advisories and guidance with recommendations designed to assist decision-makers in the evaluation of GHG emissions given the current uncertainty regarding when emissions reach the point of significance.

Lead agencies may elect to rely on thresholds of significance recommended or adopted by State or regional agencies with expertise in the field of global climate change. (See C*EQA Guidelines* Section 15064.7(c).) The Bay Area Air Quality Management District (BAAQMD) GHG significance thresholds have been commonly utilized, as they are conservative in nature and have been vetted through a public review process. However, on March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease dissemination of them until the BAAQMD has complied with CEQA. Thus, the BAAQMD is no longer recommending that the thresholds be used to determine a project's significance.

On December 5, 2008, the SCAQMD adopted GHG significance threshold for Stationary Sources, Rules, and Plans where the SCAQMD is lead agency. The threshold uses a tiered approach. The project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For industrial stationary source projects, the SCAQMD adopted a screening threshold of 10,000 metric tons of $MTCO_2eq/yr$. This threshold was selected to capture 90 percent of the GHG emissions from these types of projects where the combustion of natural gas is the primary source of GHG emissions. SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact. Tier 4 consists of three decision tree options.

Under the Tier 4 first option, the project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. Under the Tier 4 second option the project would be excluded if it had early compliance with AB 32 through early implementation of CARB's Scoping Plan measures. Under the Tier 4 third option, project would be excluded if it met sector based performance standards. However, the specifics of the Tier 4 compliance options were not adopted by the SCAQMD board in order to allow further time to develop the options and coordinate with CARB's GHG significance threshold development efforts. Tier 5 would exclude projects that implement offsite mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

While not adopted by the SCAQMD Board, the guidance document prepared for the stationary source threshold also suggested the same tiered approach for residential and commercial projects with a 3,000 $MTCO_2eq/yr$ screening threshold. However, at the time of adoption of the industrial stationary source threshold, the SCAQMD felt additional analysis was required along with coordination with CARB's GHG significance threshold development efforts.

At the November 2009 meeting of the SCAQMD GHG working group, SCAQMD staff presented two options for screening thresholds for residential and commercial projects. The first option would have different thresholds for specific land uses. The proposed threshold for residential projects is 3,500 $MTCO_2eq/yr$, the commercial threshold is 1,400 $MTCO_2eq/yr$, and the mixed-use threshold is 3,000 $MTCO_2eq/yr$. The second option would apply the 3,000 $MTCO_2eq/yr$ screening threshold for all commercial/residential projects. Lead agencies would be able to select either option. These thresholds are based on capturing 90 percent of the emissions from projects and requiring them to comply with the higher tiers of the threshold (i.e., performance requirements or GHG reductions outside of the project) to not result in a significant impact.

For the project, the 3,000 $MTCO_2eq$ per year non-industrial screening threshold is used as the significance threshold, in addition to the qualitative thresholds of significance patterned after the Initial Study Checklist recommended by Appendix G of the *CEQA Guidelines*, as amended, and used by the City of Huntington Beach in its environmental review process. The Initial Study Checklist includes questions relating to GHGs. 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 adverse environmental impact if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.4.4 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS

● **GREENHOUSE GAS EMISSIONS GENERATED BY THE PROJECT WOULD NOT HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT.**

Impact Analysis: The project's "business as usual" GHG emissions have been calculated for the project. As previously stated, "business as usual" refers to emissions that would be expected to occur in the absence of GHG reduction measures. The proposed "business as usual" GHG emissions include operation of the proposed project and forecast trip generation, as well as the GHG emissions from project construction. The California Emissions Estimator Model (CalEEMod) computer model and outputs contained within the Appendix 13.5, *Air Quality and Greenhouse Gas Data*, were used to calculate direct and indirect project-related GHG emissions. Table 5.4-1, *Business As Usual Greenhouse Gas Emissions*, presents the estimated CO_2, N_2O, and CH_4 emissions.

Table 5.4-1
Business As Usual Greenhouse Gas Emissions

Source	CO_2	CH_4		N_2O		Total Metric Tons of CO_2eq[4]
	Metric Tons/yr[1]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	Metric Tons/yr[1]	Metric Tons of CO_2eq[2]	
Remediation & Project Construction (amortized over 30 years[3])	32.86	0.002	0.03	0.00	0.00	32.89
Mobile Source	530.85	0.02	0.42	0.00	0.04	531.31
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Area Source	0.00	0.00	0.00	0.00	0.00	0.00
Water Demand	18.91	0.00	0.11	0.00	0.00	19.02
Solid Waste	0.09	0.01	0.10	0.00	0.00	0.19
Total Business As Usual Project-Related Emissions[4]	***583.41 $MTCO_2eq/yr$***					
SCAQMD Significance Threshold	**3,000 $MTCO_2eq/yr$**					
Significant Impact?	***No***					

Notes:
1. Emissions calculated using CalEEMod computer model.
2. CO_2 Equivalent values calculated using the EPA Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed February 2013.
3. The project lifetime is based on the standard 30 year assumption of the South Coast Air Quality Management District (http://www.aqmd.gov/hb/2008/December/081231a.htm).
4. Totals may be slightly off due to rounding.

Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for detailed model input/output data.

Direct Project-Related Sources of Greenhouse Gases

Construction. Project remediation and construction activities would generate approximately 986.75 $MTCO_2eq$. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions.[12] Remediation and project construction GHG emissions have been amortized, and would result in 32.89 $MTCO_2eq/yr$, which are added to the total operational GHG emissions.

Mobile Source. The CalEEMod model relies upon project specific land use data and project trip generation (obtained from the *Gun Range Remediation and Reuse Project Traffic Analysis* [*Traffic Analysis*], prepared by Stantec, dated March 2013) to calculate mobile source emissions. The project would directly result in 531.31 $MTCO_2eq/yr$ of mobile source-generated GHG emissions; refer to Table 5.4-1.

Area Source. Area source emissions are generally associated with demand for natural gas usage from hearths. However, due to the project's proposed recreational uses, area sources from hearths would not occur.

Indirect Project Related Sources of Greenhouse Gases

Energy Consumption. Energy consumption emissions are generally calculated using the CalEEMod model and project-specific land use data. Due to the project's proposed recreational uses, the energy demand would be nominal. Thus, the associated GHG emissions are negligible and unable to be quantified.

Water Demand. The project's water supply would be provided by groundwater and imported sources. The estimated water demand for the proposed project is approximately 5.9 million gallons of water per year.[13] Emissions from indirect energy impacts due to water supply would result in 19.02 $MTCO_2eq/yr$.

Solid Waste. According to the CalEEMod default waste generation rates, the project is anticipated to generate approximately 0.42 tons of solid waste per year. Solid waste associated with operations of the proposed project would result in 0.19 $MTCO_2eq/yr$; refer to Table 5.4-1.

Total Project-Related Sources of Greenhouse Gases. As shown in Table 5.4-1, the total amount of project-related "business as usual" GHG emissions from direct and indirect sources combined would total 583.41 $MTCO_2eq/yr$.

Project Design Features

Although the project's GHG emissions are below the 3,000 $MTCO_2eq/yr$ GHG threshold, the project includes project design features that would further reduce project-related GHG emissions. The project would include a water efficient irrigation system throughout the project site.

[12] The project lifetime is based on the standard 30 year assumption of the South Coast Air Quality Management District (http://www.aqmd.gov/hb/2008/December/081231a.htm).

[13] The greenhouse gas analysis conservatively utilizes the California Emissions Estimator Model's default water use generation rates which cites a study by the Pacific Institute, entitled "*Waste Not, Want Not: The Potential for Urban Water Conservation in California*", dated November 2003. It is acknowledged that this water usage rate is different than that assumed for the utilities analysis in Section 5.7.

Additionally, due to the project's location, existing public transportation options (Orange County Transportation Authority Line 25) are in proximity to the project site. The project would also incorporate pedestrian walkways that connect to the surrounding circulation network and nearby residential, commercial, institutional, and recreational uses. Implementation of the project's design features would further reduce the project's GHG emissions.

Conclusion

As shown in Table 5.4-1, operational-related "business as usual" emissions would be 583.41 $MTCO_2eq/yr$, which are below the 3,000 $MTCO_2eq/yr$ screening threshold. The project's design features would further reduce project-related GHG emissions. Therefore, the proposed project would result in a less than significant impact with regards to GHG emissions.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

- **IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.**

Impact Analysis: The City does not currently have an adopted plan for the purpose of reducing GHG emissions such as a climate action plan. However, as previously discussed, the City has prepared an *EAP* and a *Sustainability Report*, both of which address the City's efforts in reducing energy consumption and becoming more sustainable. As concluded above, the proposed project would not generate a significant amount of GHGs in an unmitigated condition. Due to the recreational nature of the proposed project, minimal energy would be required. Project-related GHG emissions would be further reduced with implementation of the proposed water-efficient irrigation systems and the project's proximity to existing transit. The proposed project would not conflict with the City's *EAP* or *Sustainability Report*, or an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts are less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.4.5 CUMULATIVE IMPACTS

- **GREENHOUSE GAS EMISSIONS GENERATED BY THE PROJECT WOULD NOT HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT OR CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.**

Impact Analysis: As stated above, the proposed project would not result in a significant impact regarding GHG emissions, as the project would result in 583.41 $MTCO_2eq/yr$ under buildout "business as usual" conditions. Therefore, project related GHG impacts were determined to be less than significant as they were below the 3,000 $MTCO_2eq$ threshold. The background and formulation of the GHG threshold that was utilized is described under Section 5.4.3, *Impact Thresholds and Significance Criteria*.

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.[14] GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.[15] The additive effect of project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. For the reasons discussed in this section and because the project incorporates GHG reduction measures and design features, the project's cumulative GHG emissions would have a less than significant impact on the environment.

There are no applicable plans, policies, or regulations that have been adopted by the City for the purpose of reducing the emissions of GHGs. However, as previously discussed, the City has prepared an *EAP* and a *Sustainability Report*, both of which address the City's efforts in reducing energy consumption and becoming more sustainable. The project would not conflict with the policies or measures of the *EAP* or *Sustainability Report*. Therefore, the proposed project would not result in a cumulatively considerable impact with regard to a conflict with these documents. Therefore, a less than significant impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

5.4.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to GHG emissions have been identified.

[14] California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.
[15] Ibid.

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5.5 NOISE

The purpose of this section is to analyze project-related noise source impacts on-site and to surrounding land uses. This section evaluates short-term construction-related impacts, as well as future buildout conditions. Information in this section was obtained from the *Huntington Beach General Plan* (*General Plan*) and the City of Huntington Beach *Municipal Code* (*Municipal Code*). For the purposes of mobile source noise impacts, traffic information contained in the *Gun Range Remediation and Reuse Project Traffic Analysis* (*Traffic Analysis*) (March 2013), prepared by Stantec was utilized; refer to Appendix 13.9, *Traffic Analysis*.

5.5.1 EXISTING SETTING

NOISE SCALES AND DEFINITIONS

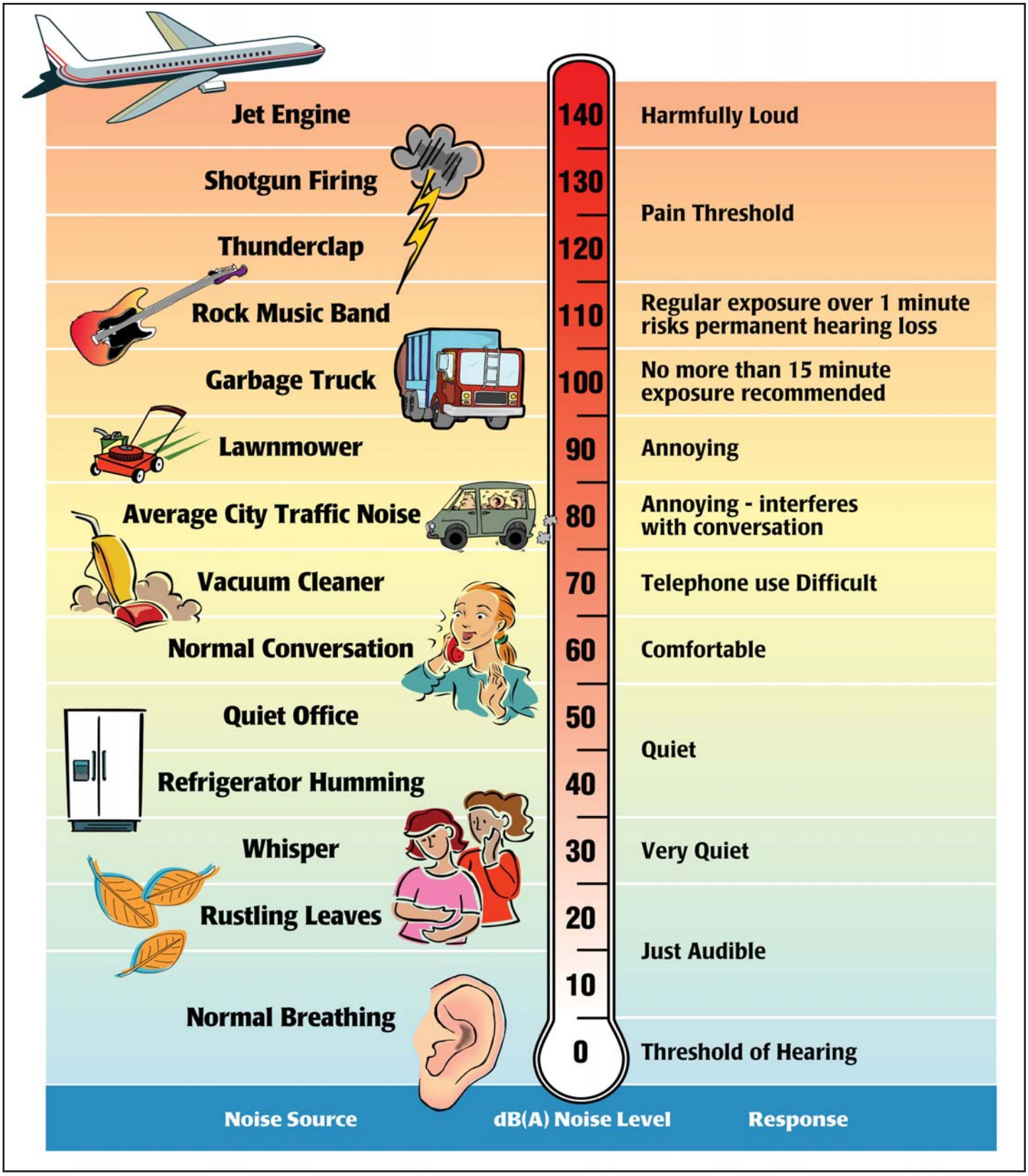
Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Exhibit 5.5-1, *Sound Levels and Human Response*.

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period of time; refer to Table 5.5-1, *Noise Descriptors*.



Source: Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, 1970.
Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA/ONAC 550/9-74-004), March 1974.

ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

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05/13 • JN 10-105676 (129894)

Sound Levels and Human Response

Exhibit 5.5-1

Table 5.5-1
Noise Descriptors

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 p.m. to 10:00 p.m., and +10 dBA for the night, 10:00 p.m.to 7:00 a.m.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the L_{eq}'s for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m.to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01}, L_{10}, L_{50}, L_{90}, respectively) of the time during the measurement period.
Source: Cyril M. Harris, *Handbook of Noise Control*, 1979.	

HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. The percentage of people claiming to be annoyed by noise generally increases with the environmental sound level. However, many factors also influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from "not annoyed" to "highly annoyed."

When the noise level of an activity rises above 70 dBA, the chance of receiving a complaint is possible, and as the noise level rises, dissatisfaction among the public steadily increases. However, an individual's reaction to a particular noise depends on many factors, such as the source of the sound, its loudness relative to the background noise, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community.

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-Induced Hearing Loss;
- Interference with Communication;
- Effects of Noise on Sleep;
- Effects on Performance and Behavior;
- Extra-Auditory Health Effects; and
- Annoyance.

Although it often causes discomfort and sometimes pain, noise-induced hearing loss usually takes years to develop. Noise-induced hearing loss can impair the quality of life through a reduction in the ability to hear important sounds and to communicate with family and friends. Hearing loss is one of the most obvious and easily quantified effects of excessive exposure to noise. While the loss may be temporary at first, it could become permanent after continued exposure. When combined with hearing loss associated with aging, the amount of hearing loss directly caused by the environment is difficult to quantify. Although the major cause of noise-induced hearing loss is occupational, substantial damage can be caused by non-occupational sources.

According to the United States Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for effects on performance to occur.

Recent research indicates that more moderate noise levels can produce disruptive after-effects, commonly manifested as a reduced tolerance for frustration, increased anxiety, decreased incidence of "helping" behavior, and increased incidence of "hostile" behavior. Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. Most effects seem to be transitory, but with continued exposure some effects have been shown to be chronic in laboratory animals.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA CNEL, approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

GROUND-BORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration, generated by man-made activities, attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack of it, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including

schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours.

Existing sensitive receptors located in the project vicinity include single and multi-family residential homes, schools, parks, places of worship and a hospital. Sensitive receptors can be seen below in Table 5.5-2, *Sensitive Receptors*.

Table 5.5-2
Sensitive Receptors

Type	Name	Distance from Project Site (miles)	Direction from Project Site
Residential	Residential Uses	0.71	North
		0.32	South
		0.32	East
		0.47	West
Schools	Mesa View Middle School	0.67	Northwest
	Hope View Elementary School	0.95	Northwest
	Schroeder Elementary School	0.93	North
	Oak View Elementary School	0.94	Northeast
	Continuation High School	0.94	North
Places of Worship	Seabreeze Church	0.23	East
	God's House	0.41	East
	Church of Religious Science	0.50	Northeast
	Jehovah's Witnesses	0.69	Northeast
	Surf City Synagogue	0.86	South
Parks	Huntington Central Park	0.00 - 0.68	On-Site and Surrounding
	Terry Park	0.44	East
	Harriett Wieder Regional Park	0.75	Southwest
	Hope View Park	0.95	Northwest
	Golden View Park	0.95	Northeast
	Oak View Center Park	0.95	Northwest
Hospitals	Huntington Beach Hospital	0.92	Northeast

Source: Google Earth 2012.

AMBIENT NOISE MEASUREMENTS

In order to quantify existing ambient noise levels in the project area, RBF Consulting conducted noise measurements on December 5, 2012; refer to Table 5.5-3, *Noise Measurements*. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site; refer to Exhibit 5.5-2, *Noise Measurement Locations*. Ten-minute measurements were taken at each site, between approximately 10:00 a.m. and 11:00 a.m. Meteorological conditions were clear skies, warm, with light wind speeds (0 to 5 miles per hour), and low humidity.

Table 5.5-3
Noise Measurements

Site No.	Location	Leq (dBA)	Lmin (dBA)	Lmax (dBA)	Peak (dBA)	Time
1	On-site (central portion of the project site)	48.6	38.2	65.8	88.8	10:00 a.m.
2	Huntington Beach Sports Complex (to the west of the project site)	55.6	40.9	73.6	90.4	10:23 a.m.
3	Huntington Beach Public Library (to the northwest of the project site)	57.0	46.9	81.4	95.2	10:43 a.m.
4	Residential uses (Ocean View Estates) located at 7051 Ellis Avenue (to the southwest of the project site)	49.1	38.3	69.2	89.6	11:02 a.m.

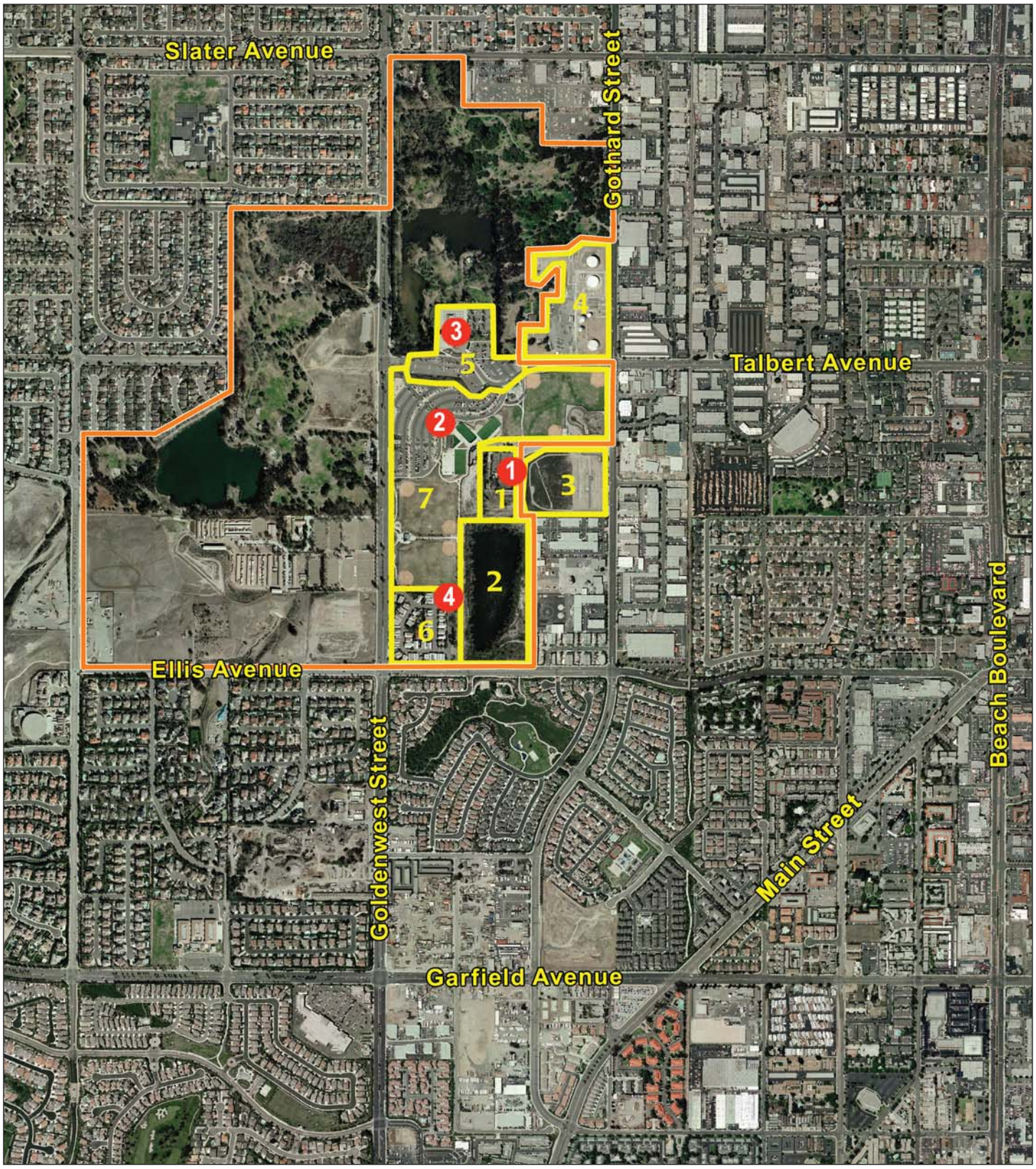
Source: RBF Consulting, December 5, 2012.

Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a 4189 pre-polarized freefield microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters. The results of the field measurements are indicated in Appendix 13.6, *Noise Data*. Existing measured noise levels range from approximately 48.6 dBA to 57.0 dBA.

MOBILE SOURCES

In order to assess the potential for mobile source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. The existing roadway noise levels in the vicinity of the project site were projected. Noise models were run using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (e.g., number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view, and site conditions ("hard" or "soft"). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. Noise projections are based on modeled vehicular traffic as derived from the project *Traffic Analysis*.

A 35- to 50-mile per hour (mph) average vehicle speed was assumed for existing conditions based on empirical observations and posted maximum speeds along the adjacent roadways. ADT estimates were obtained from the project *Traffic Analysis*; refer to Appendix 13.9, *Traffic Analysis*. Existing modeled traffic noise levels can be found in Table 5.5-4, *Existing Traffic Noise Levels*. As shown in Table 5.5-4, noise within the area from mobile noise ranges from 63.2 dBA to 72.7 dBA.



1 - Project Site
2 - Sully Miller Lake
3 - Orange County Transfer Station
4 - Chevron Facility
5 - Huntington Central Library
6 - Ocean View Mobile Home Park
7 - Huntington Central Park Sports Complex
- Huntington Central Park Boundary
- Noise Measurement Location

NOT TO SCALE

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ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Noise Measurement Locations

Exhibit 5.5-2

Table 5.5-4
Existing Traffic Noise Levels

Roadway Segment	Existing Conditions				
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Gothard Street					
North of Slater Avenue	20,000	66.1	469	148	47
Slater Avenue to Talbert Avenue	19,000	65.9	446	141	45
Talbert Avenue to Project Driveway	16,000	65.2	375	119	38
Project Driveway to Ellis Avenue	16,000	65.2	375	119	38
South of Ellis Avenue	11,000	63.4	258	82	26
Beach Boulevard					
North of Talbert Avenue	59,000	72.7	2,381	753	238
South of Talbert Avenue	56,000	72.5	2,258	714	226
Slater Avenue					
West of Gothard Street	19,000	67.1	590	187	59
East of Gothard Street	19,000	65.9	446	141	45
Talbert Avenue					
Gothard Street to Beach Boulevard	17,000	66.6	529	167	53
East of Beach Boulevard	22,000	67.7	685	216	68
Ellis Avenue					
West of Gothard Street	9,000	63.8	280	88	28
East of Gothard Street	10,000	63.2	234	74	23

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling is based upon traffic data within the *Gun Range Remediation and Reuse Project Traffic Analysis*, prepared by Stantec, March 2013.

STATIONARY NOISE SOURCES

The project area consists of a mix of recreational, residential, commercial, industrial, office and parking uses served by a grid system of arterial and collector streets. The primary sources of stationary noise in the project vicinity are urban-related activities (i.e., mechanical equipment, parking areas, and recreational areas). The noise associated with these sources may represent a single-event noise occurrence, short-term or long-term/continuous noise.

5.5.2 REGULATORY SETTING

It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk or work under various noise conditions. All such studies, however, recognize that individual responses vary considerably. Standards usually address the needs of most of the general population.

This section summarizes the laws, ordinances, regulations and standards that are applicable to the project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, federal and state agencies provide standards and guidelines to the local jurisdictions.

STATE OF CALIFORNIA GUIDELINES

California Government Code

California Government Code Section 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services.

The guidelines rank noise land use compatibility in terms of "normally acceptable", "conditionally acceptable", "normally unacceptable" and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 CNEL, as are office buildings and business, commercial and professional uses. Table 5.5-5, *Land Use Compatibility for Community Noise Environments*, presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Table 5.5-5
Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	75 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 77.5	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

CNEL = community noise equivalent level; NA = not applicable

NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.

Source: Office of Planning and Research, California, *General Plan Guidelines,* October 2003.

CITY OF HUNTINGTON BEACH

The City of Huntington Beach has a noise ordinance that provides noise guidelines and standards for significant noise generators. Noise standards from Chapter 8.40 (Noise Control), of the City of Huntington Beach *Municipal Code* are presented in Table 5.5-6, *City of Huntington Beach Noise Standards*.

Section 8.40.090(d) addresses special provisions of the Noise Ordinance regarding construction activities, as follows:

The following activities shall be exempt from the provisions of this chapter:

d. Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the City; and provided said activities do not take place between the hours of 8 p.m. and 7 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

Table 5.5-6
City of Huntington Beach Noise Standards

Noise Zone	Day	Night
	7:00 AM to 10:00 PM	10:00 PM to 7:00 AM
Exterior		
1 – Residential	55 dBA	50 dBA
2 – Professional office and public institutional	55 dBA	55 dBA
3 – Commercial (except professional office)	60 dBA	60 dBA
4 – Industrial	70 dBA	70 dBA
Interior		
1 – Residential	55 dBA	45 dBA
2 – Professional office and public institutional	55 dBA	55 dBA
3 – Commercial (except professional office)	55 dBA	55 dBA
4 – Industrial	55 dBA	55 dBA
Source: Chapter 8.40 (Noise Control) of the Huntington Beach Municipal Code.		

5.5.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Appendix G, of the *CEQA Guidelines* contains analysis guidelines related to the assessment of noise impacts. These guidelines have been utilized as thresholds of significance for this analysis. As stated in Appendix G, a project would create a significant environmental impact if it would:

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive ground borne vibration or ground borne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels (refer to Section 10.0, *Effects Found Not To Be Significant*); and
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels (refer to Section 10.0, *Effects Found Not To Be Significant*).

SIGNIFICANCE OF CHANGES IN AMBIENT NOISE LEVELS

Significance of Changes in Off-Site Traffic Noise Levels

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. A 5 dB change is generally recognized as a clearly discernable difference.

As traffic noise levels at sensitive uses likely approach or exceed the land use compatibility standards (refer to Table 5.5-5), a 3 dB increase as a result of the project is used as the increase threshold for the project. Thus, the project would result in a significant noise impact when a permanent increase in ambient noise levels of 3 dB occurs upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

Significance of Changes in Cumulative Traffic Noise Levels

The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds the perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to the "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

- *Combined Effects*: The cumulative with project noise level ("2030 With Project") would cause a significant cumulative impact if a 3 dB increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- *Incremental Effects*: The "2030 With Project" causes a 1 dBA increase in noise over the "2030 Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

Significance of Changes in Stationary Source Noise Levels

Stationary noise associated with the operation of any facility within a project area is considered significant if it would create, maintain, cause or allow the sound level, when measured on any other property, to exceed the allowable sound levels within Section 8.40 of the Code presented in Table 5.5-5.

5.5.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION NOISE IMPACTS

- **GRADING AND CONSTRUCTION WITHIN THE AREA WOULD NOT RESULT IN SIGNIFICANT TEMPORARY NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.**

Impact Analysis: The 4.91-acre project site was previously occupied by a gun range. The project proposes the remediation and reuse of the project site for a recreational use of the Huntington Central Park. Construction activities would include demolition, ground clearing, excavation, grading, construction of buildings, and paving. The proposed remediation activities would last approximately three months, while project construction activities are anticipated to last approximately six months.

High groundborne noise levels and other miscellaneous noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, scrapers, and other heavy-duty construction equipment. Table 5.5-7, *Maximum Noise Levels Generated by Construction Equipment*, indicates the anticipated noise levels of construction equipment. Table 5.5-7 provides a description of construction equipment noise levels. The average nose levels presented in Table 5.5-7 are based on the quantity, type, and Acoustical Use Factor for each type of equipment that would be used.

Table 5.5-7
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor[1] (percent)	L_{max} at 50 Feet (dBA)
Crane	16	81
Dozer	40	82
Excavator	40	81
Generator	50	81
Grader	40	85
Other Equipment (greater than five horse power)	50	85
Paver	50	77
Roller	20	80
Tractor	40	84
Truck	40	80
Welder	40	73

Note:
1. Acoustical use factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Source: Federal Highway Administration, Roadway Construction Noise Model (FHWA-HEP-05-054), January 2006.

Operating cycles for construction equipment used during these phases may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). These estimations of noise levels take into account the distance to the receptor, attenuation from molecular absorption and anomalous excess attenuation.

In order to estimate the "worst case" construction noise levels that may occur at an existing noise-sensitive receptor, the combined construction equipment noise levels have been calculated for all construction phases. The nearest sensitive receptors to the project site that could be affected by construction noise include the residential uses located approximately 700 feet to the south of the project site. Construction activities associated with the proposed project would expose nearby residential uses to exterior noise levels between 50.8 and 65.6 dBA, and interior noise levels between 30.8 and 45.6 dBA. Therefore, noise sensitive receptors in proximity to the construction site would not experience excessive noise levels during construction activities. Construction noise impacts are short-term and would cease upon completion of construction. Pursuant to Section 8.40.090(d) of the City's *Noise Ordinance*, construction activities would be allowed between the hours of 7:00 a.m. and 8:00 p.m. on weekdays and Saturdays. Thus, with adherence to the City's *Noise Ordinance*, a less than significant impact would result from construction activities.

Construction Traffic Noise

Construction activities would also cause increased noise along access routes to and from the site due to movement of equipment and workers. Proposed remediation activities would require approximately 3,750 hauling trips, while project construction would require approximately 1,900 hauling trips. It is anticipated that the total construction worker trips would range from approximately 30 to 36 daily trips during remediation and 30 to 40 daily trips during project construction.

Adherence to the *Noise Ordinance* requirements would reduce short-term construction noise impacts. The proposed project remediation would occur over three months, while project construction is anticipated to cover a period of six months. Therefore, sensitive receptors would not be exposed to significant construction noise levels over an extended period of time. Construction noise impacts would cease upon completion of the construction phase. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSTRUCTION-RELATED VIBRATION IMPACTS

- **GRADING AND CONSTRUCTION ASSOCIATED WITH THE PROPOSED PROJECT WOULD NOT RESULT IN SIGNIFICANT TEMPORARY VIBRATION IMPACTS TO NEARBY SENSITIVE RECEPTORS.**

Impact Analysis: Project construction can generate varying degrees of ground-borne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in

amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative.

The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The vibration produced by construction equipment, is illustrated in Table 5.5-8, *Typical Vibration Levels for Construction Equipment*.

Table 5.5-8
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 50 feet (inches/second)	Approximate peak particle velocity at 100 feet (inches/second)
Large bulldozer	0.089	0.031	0.011
Loaded trucks	0.076	0.027	0.010
Small bulldozer	0.003	0.001	0.0004
Auger/drill rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory hammer	0.035	0.012	0.004
Vibratory compactor/roller	0.003	0.001	0.026
Typical Impact Pile Driver	0.644	0.228	0.081
Typical Sonic Pile Driver	0.170	0.060	0.021

Notes:
1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-2.
2. Calculated using the following formula:

$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.

Ground-borne vibration decreases rapidly with distance. As indicated in Table 5.5-8, based on the FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.003 to 0.644 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. The closest structures to the nearest on-site construction activity area are associated with the sports complex maintenance yard and are approximately 50 feet to the west of the northern portion of the project site. With regard to the proposed project, ground-borne vibration would be generated primarily during potential pile driving activities in addition to site clearing and grading activities on-site and by off-site haul-truck travel. At 50 feet from the source of activity, vibration velocities range from 0.001 to 0.031 inch-per-second PPV. Due to the geologic conditions beneath the project site, pile driving of caissons may be required for potential on-site structures which would also result in vibration. The nearby structures associated with the maintenance yard are located approximately 100 feet from the nearest area of potential pile driving. Typical impact pile drivers would result in vibration velocities of 0.081 inch-per-second PPV at 100 feet. Therefore, as each of these values is below the 0.2 inch-per-second PPV significance threshold, vibration impacts associated with construction would be less than significant and no mitigation measures are required.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (MOBILE) NOISE IMPACTS

- **TRAFFIC GENERATED BY THE PROPOSED PROJECT WOULD NOT SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE CITY'S ESTABLISHED STANDARDS.**

Impact Analysis:

Off-Site Noise Conditions

Short-Range (2016) Scenarios

The "2016 Without Project" and "2016 With Project" were compared for short-range noise conditions. In Table 5.5-9, *Short-Range (2016) Noise Scenarios*, the noise level (dBA at 100 feet from centerline) depicts what would typically be heard 100 feet perpendicular to the roadway centerline. As indicated in Table 5.5-9 under the "2016 Without Project" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 63.2 dBA to 72.9 dBA. The highest noise levels under "2016 Without Project" conditions would occur along Beach Boulevard (north of Talbert Avenue). Similarly, under the "2016 With Project" scenario noise levels at a distance of 100 feet from the centerline would range from approximately 63.2 dBA to 72.9 dBA. The highest noise levels under future with project conditions would also occur along Beach Boulevard (north of Talbert Avenue). Table 5.5-9 also compares the "2016 Without Project" scenario to the "2016 With Project" scenario. The proposed project would increase noise levels on the surrounding roadways by a maximum of 0.2 dBA along Gothard Street (between Talbert Avenue and the project driveway) to a noise level of 65.6 dBA. As stated under the *Significance Criteria*, a significant impact would occur if noise levels increase by 3.0 dBA or more. Therefore, short-range noise levels resulting from the proposed project would be less than significant.

Long-Range (2030) Scenarios

The "2030 Without Project" and "2030 With Project" were compared for long-range noise conditions. In Table 5.5-10, *Long-Range (2030) Noise Scenarios*, the noise level (dBA at 100 feet from centerline) depicts what would typically be heard 100 feet perpendicular to the roadway centerline. As indicated in Table 5.5-10 under the "2030 Without Project" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 63.6 dBA to 73.1 dBA. The highest noise levels under "2030 Without Project" conditions would occur along Beach Boulevard (south of Talbert Avenue). Similarly, under the "2030 With Project" scenario noise levels at a distance of 100 feet from the centerline would range from approximately 63.6 dBA to 73.1 dBA. The highest noise levels under future with project conditions would also occur along Beach Boulevard (south of Talbert Avenue). Table 5.5-10 also compares the "2030 Without Project" scenario to the "2030 With Project" scenario. The proposed project would increase noise levels on the surrounding roadways by a maximum of 0.1 dBA along Gothard Street (between Talbert Avenue and the project driveway) and along Talbert Avenue (between Gothard Street and Beach Boulevard) to noise levels of 66.5 and 67.4 dBA, respectively. As stated under the *Significance Criteria*, a significant impact would occur if noise levels increase by 3.0 dBA or more. Therefore, long-range noise levels resulting from the proposed project would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM STATIONARY NOISE IMPACTS

- **THE PROPOSED PROJECT WOULD NOT RESULT IN A SIGNIFICANT INCREASE IN AMBIENT NOISE LEVELS.**

Impact Analysis: Following remediation, the project site is proposed to be developed as an open space/park element of Huntington Central Park. Noise associated with these recreational activities includes parking areas, conversations, and dogs barking. Should a skate park use be developed at the project site, stationary noise sources could also include skateboard-related noise.

Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. Also, noise would primarily remain on-site and would be intermittent (during peak-events). However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Parking lot noise can also be considered a "stationary" noise source and would not occur after 10:00 PM. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. However, the proposed parking lot would likely be located in the northern portion of the project site, approximately 1,200 feet north of the nearest residential uses. Estimates of the maximum noise levels associated with some parking lot activities are presented in Table 5.5-11, *Maximum Noise Levels Generated by Parking Lots*. As seen in Table 5.5-11, parking lot noise at the nearest residential use would not exceed the City's exterior noise standard of 55 dBA (refer to Table 5.5-6).

The potential dog park area of the project site would be located a minimum of 860 feet from the nearby residents to the south. Noise associated with dogs barking would be intermittent and would occur during daytime hours only. Thus, due to distance and the intervening Sully Miller Lake and associated vegetation, nearby residents would not experience noise in excess of the City's noise standards.

The potential skate park area would be located approximately 860 feet north of the nearest residential uses. As discussed in the *Center Avenue Skate Park Project Draft Environmental Impact Report* (prepared by PCR Services Corporation, dated January 2012), comparable anticipated noise levels measured at an existing skate park similar to the potentially proposed skate park ranged from 62 to 67 dBA at 10 feet from the skating area.[1] Assuming the potential skate park occurring at the project site resulted in noise levels of 67 dBA at 10 feet, the exterior noise levels experienced at the nearby residential uses would be 28.3 dBA (assuming the standard noise attenuation rate of 6 dBA per doubling of distance), which is well below the City's exterior noise standard of 55 dBA.

The surrounding sensitive receptors would not be exposed to excessive noise from parking areas, dogs barking, or potential skate park activities. Therefore, a less than significant impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

[1] These representative noise measurements were taken at the Venice Beach Skate Park on Saturday, July 9, 2011. Approximately 20 skaters were using the skating area during the measurements.

Table 5.5-9
Short-Range (2016) Noise Scenarios

Roadway Segment	2016 Without Project					2016 With Project					Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact?
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)				
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour		
Gothard Street												
North of Slater Avenue	21,000	66.4	492	156	49	21,100	66.4	494	156	49	0	***No***
Slater Avenue to Talbert Avenue	20,000	66.1	469	148	47	20,200	66.2	473	150	47	0.1	***No***
Talbert Avenue to Project Driveway	17,000	65.4	398	126	40	17,500	65.6	410	130	41	0.2	***No***
Project Driveway to Ellis Avenue	17,000	65.4	398	126	40	17,100	65.5	401	127	40	0.1	***No***
South of Ellis Avenue	11,000	63.4	258	82	26	11,100	63.5	260	82	26	0.1	***No***
Beach Boulevard												
North of Talbert Avenue	61,000	72.9	2,465	779	246	61,100	72.9	2,465	779	246	0	***No***
South of Talbert Avenue	58,000	72.7	2,343	741	234	58,100	72.7	2,343	741	234	0	***No***
Slater Avenue												
West of Gothard Street	20,000	67.4	622	197	62	20,000	67.4	622	197	62	0	***No***
East of Gothard Street	20,000	66.1	469	148	47	20,000	66.1	469	148	47	0	***No***
Talbert Avenue												
Gothard Street to Beach Boulevard	18,000	66.8	560	177	56	18,300	66.9	569	180	57	0.1	***No***
East of Beach Boulevard	23,000	67.9	715	226	72	23,200	67.9	722	228	72	0	***No***
Ellis Avenue												
West of Gothard Street	9,000	64.0	280	88	28	9,000	64.0	280	88	28	0	***No***
East of Gothard Street	10,000	63.2	234	74	23	10,000	63.2	234	74	23	0	***No***

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling is based upon traffic data within the *Gun Range Remediation and Reuse Project Traffic Analysis*, prepared by Stantec, March 2013.

Table 5.5-10
Long-Range (2030) Noise Scenarios

Roadway Segment	2030 Without Project					2030 With Project					Difference in dBA @ 100 feet from Roadway	Potentially Significant Impact?
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)				
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour		
Gothard Street												
North of Slater Avenue	21,000	66.4	492	156	49	21,100	66.4	492	156	49	0	***No***
Slater Avenue to Talbert Avenue	21,000	66.4	492	156	49	21,200	66.4	497	157	50	0	***No***
Talbert Avenue to Project Driveway	21,000	66.4	492	156	49	21,500	66.5	504	159	50	0.1	***No***
Project Driveway to Ellis Avenue	21,000	66.4	492	156	49	21,100	66.4	494	456	49	0	***No***
South of Ellis Avenue	13,000	64.2	304	96	30	13,100	64.2	307	97	31	0	***No***
Beach Boulevard												
North of Talbert Avenue	62,000	72.9	2,505	792	250	62,100	72.9	2,505	792	250	0	***No***
South of Talbert Avenue	64,000	73.1	2,581	816	258	64,100	73.1	2,587	818	259	0	***No***
Slater Avenue												
West of Gothard Street	24,000	68.2	746	236	75	24,000	68.2	746	236	75	0	***No***
East of Gothard Street	24,000	66.9	562	178	56	24,000	66.9	562	178	56	0	***No***
Talbert Avenue												
Gothard Street to Beach Boulevard	20,000	67.3	621	196	62	20,300	67.4	631	200	63	0.1	***No***
East of Beach Boulevard	27,000	68.6	840	266	84	27,200	68.6	846	268	85	0	***No***
Ellis Avenue												
West of Gothard Street	9,000	64.0	280	88	28	9,000	64.0	280	88	28	0	***No***
East of Gothard Street	11,000	63.6	258	81	26	11,000	63.6	258	81	26	0	***No***

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling is based upon traffic data within the *Gun Range Remediation and Reuse Project Analysis*, prepared by Stantec, March 2013.

Table 5.5-11
Maximum Noise Levels Generated by Parking Lots

Noise Source	Maximum Noise Levels at 50 Feet from Source (dBA L_{eq})	Maximum Noise Levels at 1,200 Feet from Source (dBA L_{eq}) [1,2]
Car door slamming	63	35.4
Car starting	60	32.4
Car idling	61	33.4

Notes:
1. Distance is from the nearest sensitive receptor to the closest parking space at the project site.
2. Estimated parking lot activity noise level is calculated by applying a 6-dBA reduction per doubling distance to the noise profiles at 50 feet. More precisely, the formula is as follows:

$$dBA2 = dBA1 + 10Log_{10} (d1/d2)^2$$

where:
dBA2 = Estimated Parking Lot Activity Noise Level;
dBA1 = Reference noise level at 50 feet;
d1 = reference distance of 50 feet;
d2 = Approximate Receptor Location Distance

5.5.5 CUMULATIVE IMPACTS

SHORT-TERM CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE CONSTRUCTION NOISE IMPACTS.**

Impact Analysis: The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. The project site is located within the central portion of the City. There are five identified cumulative projects within approximately one mile of the project site that have highest potential to interact with the proposed project, consisting of the proposed Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use Project. However, this analysis considers an additional 22 projects throughout the City in an effort to provide a conservative analysis of cumulative impacts.

Cumulative Construction Noise

The has no control over the timing or sequencing of the related projects, and as such, any quantitative analysis to ascertain the daily construction noise that assumes multiple, concurrent construction projects would be speculative. Construction-related noise for the proposed project and each related project would be localized. In addition, it is likely that each of the related projects would have to comply with the local *Noise Ordinance*, as well as mitigation measures that may be prescribed pursuant to CEQA provisions that require significant impacts to be reduced to the extent feasible.

Construction noise impacts would cease upon completion of excavation, grading, and building activities. Compliance with *Noise Ordinance* requirements, would serve to minimize the length of time noise-sensitive receptors are exposed to significant noise levels. Additionally, because noise

dissipates as it travels away from its source, noise impacts from construction activities would be limited to each of the respective sites and their and vicinities. The nearest related project to the project site would be the Senior Center project (approximately 0.21 miles to the northwest). As such, construction noise from cumulative projects would not interact with noise from the proposed project due to distances between the specific sites. Therefore, a less than significant impact would occur in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE LONG-TERM NOISE IMPACTS.**

Impact Analysis:

Cumulative Mobile Noise

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the project's incremental effects then are analyzed. The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative plus project" condition to "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

- *Combined Effects*: The cumulative with project noise level ("2030 With Project") would cause a significant cumulative impact if a 3 dBA increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with identified cumulative projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- *Incremental Effects*: The "2030 With Project" causes a 1 dBA increase in noise over the "2030 Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Consequently, only proposed projects and growth due to occur in the general vicinity of the project site would contribute to cumulative noise impacts. Table 5.5-12, *Cumulative Noise Scenario*, lists the traffic noise effects along roadway segments in the project vicinity

for "Existing", "2030 Without Project", and "2030 With Project", including incremental and net cumulative impacts.

First, it must be determined whether the Cumulative Plus Project Increase Above Existing Conditions (*Combined Effects*) is exceeded. Per Table 5.5-12 this criterion is not exceeded along any of the segments. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the ambient (2030 Without Project) noise level is increased by 1 dB or more. Based on the results of Table 5.5-12, there would not be any roadway segments that would result in significant impacts, as they would not exceed both the combined and incremental effects criteria. The proposed project would not result in long-term mobile noise impacts based on project generated traffic as well as cumulative and incremental noise levels. Therefore, the proposed project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact in this regard.

Table 5.5-12
Cumulative Noise Scenario

Roadway Segment	Existing	2030 Without Project	2030 With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and 2030 With Project	Difference in dBA Between 2030 Without Project and 2030 With Project	
Gothard Street						
North of Slater Avenue	66.1	66.4	66.4	0.3	0	***No***
Slater Avenue to Talbert Avenue	65.9	66.4	66.4	0.5	0	***No***
Talbert Avenue to Project Driveway	65.2	66.4	66.5	1.3	0.1	***No***
Project Driveway to Ellis Avenue	65.2	66.4	66.4	1.2	0	***No***
South of Ellis Avenue	63.4	64.2	64.2	0.8	0	***No***
Beach Boulevard						
North of Talbert Avenue	72.7	72.9	72.9	0.2	0	***No***
South of Talbert Avenue	72.5	73.1	73.1	0.6	0	***No***
Slater Avenue						
West of Gothard Street	67.1	68.2	68.2	1.1	0	***No***
East of Gothard Street	65.9	66.9	66.9	1	0	***No***
Talbert Avenue						
Gothard Street to Beach Boulevard	66.6	67.3	67.4	0.8	0.1	***No***
East of Beach Boulevard	67.7	68.6	68.6	0.9	0	***No***
Ellis Avenue						
West of Gothard Street	63.8	64.0	64.0	0.2	0	***No***
East of Gothard Street	63.2	63.6	63.6	0.4	0	***No***

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Noise modeling is based upon traffic data within the *Gun Range Remediation and Reuse Project Traffic Analysis*, prepared by Stantec, March 2013.

Cumulative Operational Noise

The proposed project would introduce a new parking area, as well as a potential dog park and/or skate park, which would result in noise levels at the nearest residential uses that are less than the City's standards. Thus, the proposed project would not result in long-term stationary noise sources that could significantly affect surrounding sensitive receptors. Additionally, as the nearest cumulative project (Senior Center) is located approximately 0.21 miles from the proposed project, the localized stationary noise impacts from the project site would not be cumulatively considerable due to distance. Furthermore, future development proposals within the City of Huntington Beach would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Thus, cumulative noise exposure for long-term operations would be considered a less than significant impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.5.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts related to noise have been identified.

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5.6 BIOLOGICAL RESOURCES

The proposed project site has been previously disturbed by landfill and gun range uses. The existing gun range facility closed in 1997. Since its closure, vegetation has overgrown much of the site (refer to Exhibit 3-4, *On-Site Photographs*). As such, this section describes the existing biological resources on the project site, and the potential adverse impacts associated with implementation of the proposed project. An analysis of compliance with all Federal, State, and local regulations and policies regarding biological resources has also been conducted. This section is primarily based upon the biological assessment of the project site (*Biological Constraints Survey for the Huntington Beach Gun Range Environmental Impact Report*, BonTerra Consulting, February 11, 2013) (*Biological Constraints Survey*). This section is also based upon the jurisdictional delineation of the project site (*Delineation of Jurisdictional Waters Update for the Remediation and Reuse of the Former Gun Range within Huntington Central Park*, RBF Consulting, February 6, 2013) (*Jurisdictional Delineation*). The *Biological Constraints Survey* and *Jurisdictional Delineation* are included in their entirety in Appendix 13.7, *Biological Constraints Survey/Jurisdictional Delineation*.

5.6.1 EXISTING SETTING

BIOLOGICAL ASSESSMENT METHODOLOGY

BonTerra Consulting conducted a general plant and wildlife survey and mapped vegetation on December 5, 2012. Prior to the surveys, the California Native Plant Society's (CNPS') Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2012) and the California Department of Fish and Wildlife's[1] (CDFW's) California Natural Diversity Database (CNDDB) (CDFG 2012) were reviewed to identify special status plants, wildlife, and habitats known to occur in the vicinity of the project site. A list of special status species of interest to the U.S. Fish and Wildlife Service (USFWS) was also obtained. Database searches included the U.S. Geological Survey's (USGS') Anaheim, Los Alamitos, Newport Beach, and Seal Beach 7.5-minute quadrangles. Vegetation was mapped on a 1 inch equals 160 feet (1"=160') scale color aerial. In the event the tree canopy covered another vegetation type (e.g., ornamental over a road), the vegetation was mapped as the corresponding vegetation type for the canopy.

VEGETATION TYPES

Vegetation types and other areas on the project site consist of California brittle bush scrub/ruderal, mulefat scrub/ornamental, developed/ornamental, and developed, as follows:

- California brittle bush scrub/ruderal vegetation occurs in the southern portion of the project site. This vegetation type is co-dominated by California brittlebush (*Encelia californica*) and the non-native black mustard (*Brassica nigra*). Other species present in this vegetation type include myoporum (*Myoporum laetum*), coyote brush (*Baccharis pilularis*), and California sagebrush (*Artemisia californica*). This vegetation type, particularly in the central portion of the project site, is heavily disturbed by debris from the former site usage and trash; in some areas the vegetation is growing up through asphalt.

[1] The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) effective January 1, 2013.

- Mulefat scrub/ornamental vegetation occurs within an earthen ditch along the western boundary of the project site. This vegetation type is co-dominated by mule fat (*Baccharis salicifolia*) and myoporum.

- Developed/ornamental areas occur in the more northern portions of the project site. These areas represent a mix of derelict structures (e.g., walls), debris, asphalt or gravel roads, and overgrown (primarily ornamental) vegetation. Ornamental plant species observed in these areas include Peruvian pepper (*Schinus molle*), myoporum, gum (*Eucalyptus* sp.), and fan palm (*Washingtonia* sp.). Some scattered native species (e.g., coyote brush, mule fat, and California brittlebush) also occur in these areas.

- Developed areas occur throughout the project site. They consist of derelict structures (e.g., walls and buildings) and asphalt or gravel roads. Debris (e.g., concrete, broken glass, trash) is present throughout these areas. Little to no vegetation grows in these areas.

WILDLIFE

No amphibian or reptile species were observed during the biological survey. Amphibian species expected to occur on or immediately adjacent to the project site include the western toad (*Anaxyrus boreas* [*Bufo boreas*]) and Baja California treefrog (*Pseudacris hypochondriaca* [*Hyla regilla*]). Reptile species expected to occur on the project site include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and gopher snake (*Pituophis catenifer*).

Bird species observed on the project site include osprey (*Pandion haliaetus*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), northern flicker (*Colaptes auratus*), Say's phoebe (*Sayornis saya*), American crow (*Corvus brachyrhynchos*), Bewick's wren (*Thryomanes bewickii*), blue-gray gnatcatcher (*Polioptila caerulea*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Spinus* [*Carduelis*] *psaltria*). Northern shoveler (*Anas clypeata*) and pied-billed grebe (*Podilymbus podiceps*) were observed adjacent to the project site in Sully Miller Lake; western gull (*Larus occidentalis*) was observed flying over the site.

Mammal species, or their sign, that were observed on the project site were desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), and Botta's pocket gopher (*Thomomys bottae*). Bat species expected to occur on the project site include big brown bat (*Eptesicus fuscus*) and Brazilian free-tailed bat (*Tadarida brasiliensis*).

Movement

In large open space areas where there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors may not yet exist. However, once open space areas become constrained and/or fragmented as a result of urban development or the construction of physical obstacles (e.g., roads and highways), the remaining landscape features or travel routes that connect the larger open space areas become corridors as long as they provide adequate space, cover, food, and water and do not contain obstacles or distractions (e.g., man-made noise, lighting) that would generally hinder wildlife movement.

The project site is a part of City property that includes human-modified open space in Huntington Central Park. These areas primarily contain ornamental or landscaped vegetation, with some patches of remnant native vegetation. They adjoin open space in Bolsa Chica Ecological Reserve to the southwest; however, Edwards Street represents a movement barrier. These open space areas are located in a heavily urbanized landscape matrix and so are isolated from large, intact areas of natural open space. Regional wildlife movement opportunities for terrestrial species out of the area would be confined to the Santa Ana River, the East Garden Grove Wintersburg Channel, and the immediate coast. Therefore, regional wildlife movement is only expected for urban-tolerant wildlife species or birds. Because the project site is located on the eastern edge of the fragment of open space consisting of the parks and ecological reserve, development of the property is not expected to have a significant impact on wildlife movement.

SPECIAL STATUS VEGETATION TYPES

In addition to providing an inventory of special status plant and wildlife species, the CNDDB also provides an inventory of vegetation types that are considered special status by the State and Federal resource agencies, academic institutions, and various conservation groups (e.g., the CNPS). Special status vegetation is ranked on a global (G) and statewide (S) basis according to its degree of imperilment. Local jurisdictions may also protect special status vegetation types through ordinances, codes, regulations, or planning policies.

Coastal Sage Scrub

Coastal sage scrub, as a whole, had declined by approximately 70 to 90 percent in its historic range in California by the mid-1990s. This vegetation type supports many special status plant and wildlife species, and the ecological function of southern California's remaining coastal sage scrub continues to be threatened by habitat fragmentation, invasive non-native species, livestock grazing, off-highway vehicles, altered fire regime, and perhaps air pollution. The coastal sage scrub vegetation type on the project site consists of California brittle bush scrub/ruderal vegetation. California brittle bush scrub is ranked as G4 S3. G4 communities are apparently secure and uncommon but not rare with some cause of long-term concern due to declines or other factors; S3 communities are vulnerable and at moderate risk of extinction or elimination due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors. California brittle bush scrub on the project site has been degraded by the presence of ornamental species and would, therefore, not be considered as biologically valuable as undisturbed types.

Riparian

Riparian vegetation occurs along perennial or intermittent drainages that are typically subject to seasonal flooding. Most natural riparian vegetation in southern California has been lost or degraded by land use conversions to agricultural, urban, and recreational uses; channelization for flood control; sand and gravel mining; groundwater pumping; water impoundments; and various other changes. It is estimated that as much as 95 to 97 percent of historic riparian habitats in southern California have been lost. In general, riparian vegetation can provide important biological functions for an ecosystem (e.g., cover and water sources for wildlife; filtration of runoff water and groundwater recharge; and flood control and sediment stabilization). Riparian vegetation on the project site occurs along the earthen ditch on the south western edge of the property; it is comprised of mulefat scrub/ornamental vegetation. Mulefat scrub is ranked as G4 S4, meaning that it is

apparently secure. Mulefat scrub on the project site has been degraded by the presence of ornamental species and would, therefore, not be considered as biologically valuable as undisturbed types.

SPECIAL STATUS PLANT AND WILDLIFE SPECIES

Plants or wildlife may be considered "special status" due to declining populations, vulnerability to habitat change, or restricted distributions. Certain special status species have been listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts.

Special Status Plant Species

Several special status plant species have been reported in the vicinity of the project site. Four of these species are federally and/or State-listed Threatened or Endangered species: Ventura Marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), Gambel's water cress (*Nasturtium gambelii*), and California Orcutt grass (*Orcuttia californica*). None of these species are expected to occur on the project site due to lack of suitable habitat or because they are not currently known from the region.

In addition to species formally listed by the resource agencies, several species reported in the vicinity of the project site have a California Rare Plant Rank (CRPR) of 1B or 2 and may be considered constraints on development per Section 15380 of CEQA. There is marginal suitable habitat for southern tarplant (*Centromadia parryi* ssp. *australis*) on the project site. The presence of this species on the project site may represent a constraint on development, depending on the size of the population relative to populations in the region. The remaining species are not expected to occur on the project site due to the disturbed condition of the project site and lack of suitable habitat.

Although several species with a CRPR of 3 and 4 are also known from the vicinity, these species are not typically considered constraints to development.

Special Status Wildlife Species

Several special status wildlife species have been reported from the project vicinity. The following Federally and/or State-listed Endangered or Threatened species have been reported from the vicinity of the project site: San Diego fairy shrimp (*Branchinecta sandiegonensis*), green turtle (*Chelonia mydas*), light-footed clapper rail (*Rallus longirostris levipes*), California black rail (*Laterallus jamaicensis coturniculus*), western snowy plover (*Charadrius alexandrines nivosus*), California least tern (*Sternula antillarum browni*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), bank swallow (*Riparia riparia*), coastal California gnatcatcher (*Polioptila californica californica*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and Pacific pocket mouse (*Perognathus longimembris pacificus*). Any impact on these species, if present, would be considered significant. There is limited, marginal suitable habitat for the coastal California gnatcatcher on the project site. This species is discussed below. The remaining species are not expected to occur on the project site due to the disturbed condition of the project site and lack of suitable habitat.

In addition to species formally listed by the resource agencies, multiple species reported in the vicinity of the project site may be considered constraints on development per Section 15380 of CEQA. The following California Species of Special Concern have limited potential to occur on the project site due to the presence of limited, marginal suitable habitat: orangethroat whiptail (*Aspidoscelis hyperythra*) and coast horned lizard (*Phrynosoma blainvillii*). The presence of these species on the project site is not expected to be a constraint on development due to the degraded nature of the project site and because development of the project site would not reduce regional populations of these species below self-sustaining levels.

Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally listed Threatened species and a California Species of Special Concern. This subspecies is an obligate resident (occurs year-round) in coastal sage scrub habitat. This species has been reported immediately east of the project site in coastal sage scrub. A limited amount of marginal suitable habitat for this species is present on the project site. Focused surveys would be required to determine the current presence or absence of this species on the project site. In the absence of focused surveys, presence must be assumed in sage scrub vegetation types.

On December 19, 2007, the USFWS published a final rule revising critical habitat for the coastal California gnatcatcher. This revised designation covers 197,303 acres of land in Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. The project site is not located in designated critical habitat for this subspecies.

JURISDICTIONAL AREAS

RBF Consulting conducted the jurisdictional delineation update site visit for the project site on February 5, 2013, in order to delineate the U.S. Army Corps of Engineers' (USACE), Regional Water Quality Control Board (RWQCB), and CDFW jurisdictional authority.

One earthen ditch was noted along the western boundary of the project site. No water flow was noted within the boundaries of the project site during the site visit. While in the field, RBF staff looked for evidence of an ordinary high water mark (OHWM) and hydrology (i.e., erosional cut, drift and debris, sediment deposits); however, no evidence of hydrology was noted within the earthen ditch. The earthen ditch and slopes contained upland vegetation, including ngaio tree (*Myoporum laetum*), Peruvian peppertree (*Schinus molle*), tree tobacco (*Nicotiana glauca*), mustard (*Brassica nigra*), brittlebush (*Encelia californica*), coyote brush (*Baccharis pilularis*), castorbean (*Ricinus communis*), and Washington fan palm (*Washingtonia robusta*). However, mulefat (*Baccharis salicifolia*), a riparian species, was also noted in and surrounding the ditch. The ditch appeared to be disturbed, and contained debris and trash. No evidence of a streambed was noted and no culverts associated with the ditch were observed.

Based on the results of the field observation, no USACE, RWQCB, or CDFW jurisdictional drainages or wetlands are located within the boundaries of the project site. Therefore, it will not be necessary to obtain regulatory agency approvals prior to project construction.

OTHER CONSIDERATIONS

Nesting Raptors

Several raptor species (i.e., birds of prey) have potential to nest in the ornamental trees in and adjacent to the project site. If construction would occur during the raptor nesting season (i.e., February 1 to June 30), the loss of an active nest of any raptor species, including common raptor species, would be considered a violation of Sections 3503, 3503.5, and 3513 of the *California Fish and Game Code*.

Nesting Birds

The Migratory Bird Treaty Act (MBTA) protects the taking of migratory birds and their nests and eggs. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (50 *Code of Federal Regulations,* Section 10.13). Any impact on an active bird nest would be considered a violation of the MBTA.

5.6.2 REGULATORY SETTING

Threatened and endangered species are listed by the USFWS and CDFW. In California, three agencies generally regulate activities within inland streams, wetlands, and riparian areas: USACE; the CDFW; and the RWQCB. The USACE Regulatory Branch regulates activities pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. The CDFW regulates activities under CDFW Code Sections 1600-1607. The RWQCB regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Act.

FEDERAL

Federal Endangered Species Act

The FESA of 1973 (50 CFR 17) is intended to protect plants and animals that have been identified as being at risk of extinction and classified as either threatened or endangered. FESA also regulates the "taking" of any endangered fish or wildlife species, per Section 9 of the Act. A responsible agency or individual landowners are required to submit to a formal consultation with the USWFS to assess potential impacts to listed species as the result of a development project, pursuant to FESA Sections 7 and 10. The USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified.

STATE

California Endangered Species Act

The CESA of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the State. The State of California also lists Species of Special Concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or

educational value. The CDFW is given the responsibility by the State to assess development projects for their potential to impact listed species and their habitats. State listed special-status species are also addressed through the issuance of a 2081 permit (Memorandum of Understanding).

California Fish and Wildlife Code

Within the State of California, fish, wildlife, and native plant resources are protected and managed by the CDFW. The Fish and Game Commission and/or the CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the Fish and Game Code address the protected species: Section 3511 (birds); Section 4700 (mammals); Section 5050 (reptiles and amphibians); and, Section 5515 (fish).

Migratory Bird Treaty Act of 1918

The Federal Migratory Bird Treaty Act (MBTA) was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA makes it illegal to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers, nests, eggs, or other avian products. The USFWS is responsible for enforcing the MBTA.

NATURAL COMMUNITY CONSERVATION PLAN

The Natural Community Conservation Act (the Act), codified at *Fish and Wildlife Code* Sections 2800 2840, authorizes the preparation of Natural Community Conservation Plans (NCCPs) to protect natural communities and species, while allowing a reasonable amount of economic development. The project site is not within the jurisdiction of any NCCP or Habitat Conservation Plan (HCP).

5.6.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA SIGNIFICANCE CRITERIA

The issues presented in the Initial Study Environmental Checklist (Appendix G of the *CEQA Guidelines*) have been utilized as thresholds of significance in this Section. Accordingly, biological resources impacts resulting from the implementation of the proposed project may be considered significant if they would result in the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (refer to Section 10.0, *Effects Found Not To Be Significant*); and

- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (refer to Section 10.0, *Effects Found Not To Be Significant*).

CEQA Guidelines Section 15065(a), *Mandatory Findings of Significance*, states that a project may have a significant effect on the environment if it would have "... the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species ..."

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would substantially diminish, or result in the loss of, an important biological resource or those that would obviously conflict with local, State, or Federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

CEQA Guidelines Section 15380, *Endangered, Rare or Threatened Species*, states that a lead agency can consider a non-listed species to be Rare, Threatened, or Endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of Rare, Threatened, or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special status species was considered according to the definitions for Rare, Threatened, and Endangered listed in CEQA Guidelines Section 15380.

- 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.

5.6.4 IMPACTS AND MITIGATION MEASURES

SPECIAL STATUS PLANT AND WILDLIFE SPECIES

- **PROJECT IMPLEMENTATION WOULD NOT HAVE AN ADVERSE EFFECT, EITHER DIRECTLY OR THROUGH HABITAT MODIFICATIONS, ON SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL STATUS.**

Impact Analysis: The project proposes the remediation and long-term reuse of the project site as a recreational component of Huntington Central Park, as described in detail in Section 3.0, *Project Characteristics*.

Special Status Plant Species

As indicated above, several special status plant species have been reported in the vicinity of the project site, four of which are federally and/or State-listed Threatened or Endangered species. However, none of these species are expected to occur on the project site due to the lack of suitable habitat or because they are not currently known from the region. In addition to species formally listed by the resource agencies, several species reported in the vicinity of the project site have a California Rare Plant Rank (CRPR) of 1B or 2 and may be considered constraints on development. There is a marginal suitable habitat for southern tarplant (*Centromadia parryi* ssp. *australis*) on the project site. The presence of this species on the project site may represent a constraint on development, depending on the size of the population relative to populations in the region. Therefore, focused surveys for special status plant species are recommended during the appropriate blooming period (generally spring/summer) to determine the presence or absence of special status species (Mitigation Measure BIO-1).

Landscaping proposed as part of a future development may include a variety of native and non-native plant species. After project implementation, a number of non-native plant species that are more adapted to urban environments could increase in population and displace native species in adjacent areas (i.e., the Orange County Transfer Station) because of their ability to more effectively compete for resources. These plant species are often more adapted to a wider variety of growing conditions and can out-compete native plant populations for available nutrients, prime growing locations, and other resources. Because these plants reproduce so quickly and in such large amounts, they can quickly replace many native plant populations, resulting in lower species diversity, loss of areas suitable for breeding and/or foraging by wildlife species, changes in riparian ecosystem, and overall reduction in habitat values. The project site currently includes a large proportion of non-native species. Design and operational features should be in place to ensure that additional invasive exotic species are not included in the landscape plan for the future project. While the impact of invasive species would be considered adverse, it would not be expected to represent a significant constraint on development of the project site. Mitigation Measure BIO-2 requires the project's landscaping plans to exclude the use of invasive plant species in the site's plant palette. With implementation of Mitigation Measure BIO-2, impacts would be less than significant.

Special Status Wildlife Species

As indicated above, several special status wildlife species have been reported in the vicinity of the project site, 11 of which are federally and/or State-listed Threatened or Endangered species. There is limited, marginal suitable habitat for the coastal California gnatcatcher on the project site

(discussed below). The remaining 10 species are not expected to occur on the project site due to the disturbed condition of the project site and lack of suitable habitat.

The coastal California gnatcatcher has been reported immediately east of the project site in coastal sage scrub on the Orange County Transfer Station. Although the project site is not located in a designated critical habitat area for the coastal California gnatcatcher, a limited amount of marginal suitable habitat for this species is present on the project site. Therefore, focused surveys would be required to determine the current presence or absence of this species on the project site (Mitigation Measure BIO-3).

Noise levels and human activity on the project site would increase over present levels during project construction. These temporary noise impacts have the potential to disrupt the foraging, nesting, roosting, and denning activities of a variety of wildlife species. Wildlife species startled or stressed by construction noise may disperse from the habitat near the project site. However, the project site is located adjacent to an active park that is heavily used by visitors. Therefore, most wildlife species on the project site are likely already acclimated to a high level of human activity and noise associated with park maintenance. The indirect noise impact would be considered adverse, but it would not be expected to represent a significant constraint on development of the project site.

In addition, development of the project site may increase the number of nighttime light and glare sources. This may result in an indirect impact on potential biological resources east of the proposed development on the Orange County Transfer Station. Night lighting may impact the behavioral patterns of nocturnal and crepuscular (i.e., active and dawn and dusk) wildlife adjacent to the lighted areas. Of greatest concern is the effect on small, ground-dwelling animals that use the darkness to hide from predators, and on owls, which are specialized night foragers. Design and operational features should be in place to ensure that outdoor lighting is not directed toward adjacent open space. The indirect night lighting impact would be considered adverse, but would not be expected to represent a significant constraint on development of the project site. Mitigation Measure BIO-4 requires light shielding to be incorporated and night lighting to be directed away from open space areas in order to reduce potential impacts to wildlife.

Therefore, project implementation would have a less than significant impact involving special status plant and wildlife species with implementation of Mitigation Measures BIO-1 through BIO-4.

Mitigation Measures:

BIO-1 Prior to vegetation clearing activities on-site, the City of Huntington Beach shall conduct focused surveys for special status plant species during the appropriate blooming period (generally spring/summer) to determine the presence or absence of special status plant species. If a special status plant species is observed, its rarity and abundance shall be evaluated by the Project Biologist. If the finding is considered significant, then additional avoidance, minimization, or mitigation measures may be required as determined appropriate by the Project Biologist.

BIO-2 Prior to the approval of landscape plans for the proposed project, the project Landscape Architect shall certify to the City of Huntington Beach Planning and Building Department that exotic plant species (any species listed in the California Invasive Plant Council [Cal-IPC] Invasive Plant Inventory or the Federal Noxious Weed List) are not included in the plant palette for the site.

BIO-3 Prior to vegetation clearing activities on-site, the City of Huntington Beach shall conduct focused surveys for the coastal California gnatcatcher to determine the presence or absence of this species on the project site. Survey protocol requires either (1) a minimum of six surveys be conducted between March 15 and June 30 or (2) a minimum of nine surveys be conducted between July 1 and March 14. If focused surveys determine that coastal California gnatcatcher is not present on the project site, then no further measures would be necessary. If focused surveys determine that the coastal California gnatcatcher is present on the project site, then the City shall implement additional avoidance, minimization, or mitigation measures as determined by the USFWS.

BIO-4 Prior to the approval of lighting plans and specifications for the proposed project, the City of Huntington Beach Planning and Building Department shall verify that night lighting shall be directed away from open space areas and shielding shall be incorporated into the final project design to minimize the increase in ambient lighting adjacent areas to the greatest extent practicable. These stipulations shall be denoted on project plans for review and approval by the Planning and Building Department.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

SENSITIVE NATURAL COMMUNITIES

- **PROJECT IMPLEMENTATION WOULD NOT HAVE AN ADVERSE EFFECT ON RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITY.**

Impact Analysis: As discussed in the *Biological Constraints Survey*, riparian vegetation on the project site occurs along the earthen ditch on the western edge of the property and is comprised of mulefat scrub/ornamental vegetation. However, as the mulefat scrub has been degraded by the presence of ornamental species, it is not considered to be biologically valuable. Therefore, project implementation would not impact riparian habitat.

According to the *Jurisdictional Delineation*, one earthen ditch was noted along the western boundary of the project site. No water flow was noted within the boundaries of the project site during the site visit, and no evidence of hydrology was noted within the earthen ditch. However, mulefat (*Baccharis salicifolia*), a riparian species, was noted in and surrounding the ditch. The ditch appeared to be disturbed, and contained debris and trash. No evidence of a streambed was noted and no culverts associated with the ditch were observed. Therefore, based on the results of the field observation, no USACE, RWQCB, or CDFW jurisdictional drainages or wetlands are located within the boundaries of the project site, and it will not be necessary to obtain regulatory agency approvals prior to project construction.

As noted above, a limited amount of marginal suitable habitat for the coastal California gnatcatcher is present on the project site. Thus, as noted above, Mitigation Measure BIO-3 would require focused surveys to determine the current presence or absence of this species on the project site. Implementation of the proposed project would result in a less than impact to sensitive natural communities with implementation of Mitigation Measure BIO-3.

Mitigation Measures: Refer to Mitigation Measure BIO-3.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

MIGRATORY BIRDS

- **IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT INTERFERE WITH THE MOVEMENT OF A NATIVE RESIDENT OR MIGRATORY SPECIES.**

Impact Analysis: The project site has the potential to support migratory bird species, including both raptor and songbird species. Disturbing or destroying active nests is a violation of the Federal MBTA. Nesting activity typically occurs from mid-February to mid-August. The removal of vegetation during the breeding season is considered a potentially significant impact. Therefore, the project would be required to comply with Mitigation Measure BIO-5, which would be accomplished in one of two ways. First, efforts would be made to schedule all vegetation removal activities outside of the nesting season (typically February 15 to August 15) to avoid potential impacts to nesting birds. This would ensure that no active nests would be disturbed and that habitat removal could proceed rapidly. Second, if initial vegetation removal occurs during the nesting season, all suitable habitat would be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 100 feet (300 feet for raptors) would be delineated, flagged, and avoided until the nesting cycle is complete, as determined by the biological monitor, to minimize impacts. Therefore, with implementation of Mitigation Measure BIO-5, impacts to migratory birds would be reduced to less than significant levels.

Mitigation Measures:

BIO-5 To the extent feasible, the City of Huntington Beach shall conduct all vegetation removal activities outside of the nesting season (typically February 15 to August 15) to avoid potential impacts to nesting birds. However, if initial vegetation removal occurs during the nesting season, all suitable habitat shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist prior to commencement of clearing. If any active nests are detected, a buffer of at least 100 feet (300 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete as determined by the Project Biologist.

Level of Significance: Less Than Significant With Mitigation Incorporated.

5.6.5 CUMULATIVE IMPACTS

- **PROJECT IMPLEMENTATION WOULD NOT HAVE A CUMULATIVE ADVERSE EFFECT ON SPECIAL STATUS SPECIES, RIPARIAN HABITAT OR OTHER SENSITIVE NATURAL COMMUNITY, OR MIGRATORY BIRDS.**

Impact Analysis: The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. The project site is located within the central portion of the City. There are five identified cumulative projects within approximately one mile of the project site that have highest potential to interact with the proposed project, consisting of the proposed Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use

Project. However, this analysis considers an additional 22 projects throughout the City in an effort to provide a conservative analysis of cumulative impacts.

As concluded above, implementation of the proposed project would result in less than significant impacts to the special status plants and wildlife species, as well as sensitive natural communities with implementation of Mitigation Measures BIO-1 through BIO-4, and a less than significant impact to the movement of a native resident or migratory species with implementation of the Mitigation Measure BIO-5. The project would have a limited ability to interact with the identified cumulative projects, as the majority of the projects identified in Section 4.0 are sites that have been previously disturbed in urban environments with minimal biological resource value. Therefore, project implementation would not result in cumulatively considerable impacts to biological resources. Notwithstanding, as with the proposed project, all future cumulative development would undergo environmental review on a project-by-project basis, in order to evaluate potential impacts to biological resources and ensure compliance with the established regulatory framework.

Mitigation Measures: Refer to Mitigation Measures BIO-1 through BIO-5.

Level of Significance: Less Than Significant With Mitigation Incorporated.

5.6.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts related to biological resources have been identified following implementation of the recommended mitigation measures.

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5.7 UTILITIES

This section is based upon information from local agencies; refer to Appendix 13.1, *Initial Study and Notice of Preparation* and Appendix 13.8, *Utilities Correspondence*. Other references include the City's *2010 Urban Water Management Plan* (June 2011), as well as the Municipal Water District of Orange County (MWDOC) *2010 Regional Urban Water Management Plan* (June 2011). In the context of this EIR, the utilities consist of water, wastewater, and solid waste. Other public services and utilities are addressed in Section 10.0, *Effects Found Not to be Significant*.

This section discusses existing conditions, which provide background information necessary to determine potential impacts of the proposed project. Criteria by which an impact may be considered potentially significant are provided, along with a discussion of impacts pursuant to Appendix G of the *CEQA Guidelines*. Mitigation measures are identified to avoid or reduce potential impacts, where necessary.

5.7.1 EXISTING SETTING

WATER

Water Supply

The project site is served by the City of Huntington Beach Public Works Department Utilities Division. The Public Works Department supplies approximately 33 million gallons per day (mgd) to 49,000 water meters within the City. In the 2010 water year, 62 percent (18,271 acre-feet per year [AFY]) of the City's water is supplied by groundwater wells located within the City, while 38 percent (11,197 AFY) was imported from the Metropolitan Water District (MWD).[1] Facilities within the City consist of 480 miles of water lines (ranging from two to 42 inches in diameter), water booster pumps, and three storage tanks with capacities of nine million gallons, 16 million gallons, and 21 million gallons.

The City is a member agency of the MWDOC, which provides imported surface water from the Colorado River and the State Water Project via MWD. The City's water is also provided by groundwater pumped from the Santa Ana River basin. Groundwater comes from a natural underground reservoir managed by the Orange County Water District (OCWD) that stretches from the Prado Dam and fans across the northwestern portion of Orange County and stretching as far south as the El Toro "Y."

Existing sources of water supply consist of ten groundwater wells that pump directly into the system, three imported water connections, and three emergency connections with neighboring cities. Groundwater production from the ten wells varies from approximately 350 gallons per minute (gpm) to approximately 3,400 gpm, with normal supply at approximately 18,150 gpm, and total production capacity rated at approximately 25,050 gpm.

The three imported connections are with MWD. One connection (OC 9) enters Huntington Beach at Newland Street and Edinger Avenue, and has the capacity to deliver 6,300 gpm into the water system. The second connection (OC 35) is located at Springdale Street and Glenwood Drive with a

[1] City of Huntington Beach, *2010 Urban Water Management Plan*, June 2011.

capacity of 9,000 gpm. The third connection (OC 44) enters Huntington Beach at the Santa Ana River and Adams Avenue with a capacity of 6,700 gpm.

The City has four potable water storage reservoirs with a total combined capacity of 55 million gallons. Overmyer I and Overmyer II have a combined capacity of 24 million gallons; Peck Reservoir has a capacity of 17 million gallons; Edwards Hill Reservoir has a capacity of nine million gallons; and Springdale Reservoir has a capacity of five million gallons.

The pumping capacity into the system from all reservoirs is 44,365 gallons per minute. Total capacity from all wells, reservoirs, and MWD connections is approximately 87,980 gallons per minute (126.69 mgd). The water system has 537 miles of pipeline ranging in size from two inches to 42 inches. The City maintains emergency water connections with the cities of Fountain Valley, Seal Beach, and Westminster.

Currently, water distribution mains surround the project site, with facilities located within Goldenwest Street (west of the project site), Gothard Street (east of the project site), and Talbert Avenue (north of the project site). An extension exists from the water main located within Gothard Street to the southeast corner of the project site.

Water Demand

Similar to other water supply agencies, the City estimates a range of different future water demands, including average-day and maximum-day, in order to adequately plan for anticipated growth. Average-day demands account for variations in water use over a period of time due to a variety of potential factors such as weather patterns and conservation measures, whereas maximum-day demands project the greatest anticipated amount of water that would be used per day.

According to the City's *2010 Urban Water Management Plan*, the City is near full development, and water usage for the City's service area has been relatively stable over the past five years. The City's future water average demands are projected to increase by approximately 17 percent by 2025, and by 20 percent by 2035 as a result of planned development and re-development and the projected increase in population. The average daily water consumption in the City in 2010 was approximately 26 mgd. Average daily water demand for the City is projected to be approximately 30 mgd in the year 2025, and 31 mgd in the year 2035.[2]

The *2010 Urban Water Management Plan* indicates that the City will be able to meet all water demand in average, single dry, and multiple dry years through 2035.[3] Single dry year demand data show surpluses in all years ranging from a low of 148.3 percent (projected supply during a single dry year as a percent of single dry year demand) in 2015 to a high of 182.3 percent in 2020. Similarly, data surpluses in all years range from a low of 118.6 percent (projected supply during an average year of a multiple (three) year dry period as a percent of average multiple year demand in 2015 to a high of 142.5 percent in 2025. These same factors are representative of all of Orange County and will be applied to project the City's demands in single and multiple dry years. Comparisons of current and projected water supplies and demands in single dry and multiple dry years also indicated that all City demands would be met through 2035.[4]

[2] Ibid.
[3] Ibid.
[4] Ibid.

In order to decrease dependence on regional water supply, MWDOC intends to increase development of local water supplies. Therefore, in order to maintain a more reliable water supply, a number of projects including storage, recycling, conjunctive use with groundwater basins, ocean desalination and new groundwater development will contribute to enhanced water reliability. Additionally, OCWD was formed by a special act of the California legislature in 1933 to manage, replenish, regulate, and protect the groundwater supplies underlying central Orange County. To accomplish these goals, the OCWD's enabling act empowers it to (1) provide for the conjunctive use of groundwater and surface water; (2) store water in underground basins or reservoirs; (3) regulate and control the storage of water and the use of storage space in the groundwater basin; (4) purchase and import water into the OCWD; (5) transport, reclaim, purify, treat, inject, extract, or otherwise manage and control water for the beneficial use of persons or property within the district; and (6) improve and protect the quality of groundwater supplies within the OCWD.[5] Thus, through the efforts of MWD, MWDOC, and OCWD, the City's reliability on regional and local water sources would be maintained.

WASTEWATER

The Orange County Sanitation District (OCSD) and the City of Huntington Beach Public Works Department Utilities Division provide sanitation treatment and sewerage services for the City of Huntington Beach. Presently, 98 percent of the City is connected to the sewer system while the remainder of the City uses septic tanks.

Wastewater Facilities

The City is responsible for maintaining 350 miles of wastewater piping (ranging from six to 30 inches in diameter) and 27 sewage lift stations which, combined transport an estimated 24.3 million gallons a day of wastewater through the City. City crews are also responsible for the maintenance and repairs necessary to keep the wastewater system operating at peak performance levels. All City-owned sewer lines are cleaned every 18 months. Utilizing a telemetry system, the staff has constant monitoring capabilities of all sewer lift stations and also has crews perform a site and equipment inspection every two days.

Within the City, the wastewater system is comprised of major trunk lines, smaller feeder lines, and lift stations. Wastewater lines currently exist within Goldenwest Street, located west of the project site, and Gothard Street, located east of the project site. There is an existing six-inch diameter sewer lateral extending from close proximity of the project site to a 15-inch sewer lateral in Goldenwest Street, which conveys flows northerly to an existing 33-inch OCSD trunk line in Slater Avenue.[6] The two wastewater treatment plants serving the City, Plant No. 1 and Plant No. 2, perform primary and secondary treatment procedures and are operated by OCSD. OCSD has developed engineering plans for plant improvements anticipated to meet the needs of the City to the year 2050.[7]

[5] Ibid.
[6] Written correspondence with Mr. Steve Bogart of the City of Huntington Beach Public Works Department, dated January 18, 2013.
[7] City of Huntington Beach General Plan, Utilities Element, May 13, 1996.

STORMWATER

According to the *General Plan*, the City's the Orange County Flood Control District (OCFCD) and the City's Public Works Department operate the stormwater drainage system within the City. The stormwater drainage system removes water runoff from streets, and after filtration, transports the runoff to the ocean. The OCFCD owns, operates, maintains, and improves regional flood control facilities. The City owns operates 15 storm drainage channel pumping stations which pump the runoff water into the channels and the ocean.

No improved drainage facilities exist on or immediately surrounding the project site. Currently, the majority of the project site drains by sheet flow onto adjacent areas. The western portion of the site drains to an existing earthen ditch along the site's western boundary. This ditch directs stormwater south towards Sully Miller Lake.

SOLID WASTE

Solid waste from the project area that cannot be recycled or diverted is disposed of at the Frank R. Bowerman Landfill located in Irvine. The Frank R. Bowerman Landfill has a maximum permitted throughput of 11,500 tons per day, a remaining capacity of 205,000,000 cubic yards, and is not anticipated to close until 2053.[8] Solid waste (including recycled materials) in the area is handled and transported by Rainbow Environmental Services.

5.7.2 REGULATORY SETTING

WATER SUPPLY

State of California

Senate Bills 221 and 610

Senate Bills 221 and 610 were signed into law in 2001 and took effect January 1, 2002. The two bills amended State law to better link information on water supply availability to certain land use decisions by cities and counties. The two companion bills provide a regulatory forum that requires more collaborative planning between local water suppliers and cities and counties. All Senate Bill (SB) 221 and 610 reports are generated and adopted by the public water supplier. SB 610 requires a detailed report regarding water availability and planning for additional water suppliers that is included with the environmental document for specified projects. All projects that meet any of the following criteria require the water availability assessment:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;

[8] CalRecycle, *Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/Detail/, accessed December 20, 2012.

- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;

- A proposed hotel and/or motel having more than 500 rooms;

- A proposed industrial, manufacturing, or processing plant or an industrial park planned to house more than 1,000 persons, occupying more than 60 acres of land, or having more than 650,000 square feet of floor area;

- A mixed-use project that includes one or more of the projects specified in this subdivision; or

- A project that would demand an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

While SB 610 primarily affects the Water Code, SB 221 principally applies to the Subdivision Map Act. The primary effect of SB 221 is to condition every tentative map for an applicable subdivision on the applicant by verifying that the public water supplier (PWS) has sufficient water supply available to serve it. Under SB 221, approval by a city or county of certain residential subdivisions requires a written verification of sufficient water supply. SB 221 applies to any subdivision, defined as:

- A proposed residential development of more than 500 dwelling units (if the PWS has more than 5,000 service connections); or

- Any proposed development that increases connections by 10 percent or more (if the PWS has fewer than 5,000 connections).

Based on the requirements of SB 610, the project does not meet the definition of a project per Section 10912 of the Water Code, and as such, SB 610 does not apply to the proposed project. Therefore, a Water Supply Assessment is not required for the project. Based on the requirements of SB 221, written verification of adequate water supply for the project is not required.

Assembly Bill 3030

Assembly Bill (AB) 3030, the Groundwater Management Act, is Section 10750 et seq. of the California Water Code. AB 3030 provides local water agencies with procedures to develop a groundwater management plan so those agencies can manage their groundwater resources efficiently and safely while protecting the quality of supplies. Under AB 3030, the development of a groundwater management plan by a local water agency is voluntary. Once a plan is adopted, the rules and regulations contained therein must also be adopted to implement the program outlined in the plan. The City has included water conservation and the promotion of water use efficiency as part of the City of Huntington Beach's Water Supply and Management Program. The City has also amended Chapter 14.18 of the City's *Municipal Code* establishing a Water Conservation and Water Supply Program. The City's *2010 Urban Water Management Plan* also identifies water conservation measures.

Efficiency Standards

Title 24 of the California Administrative Code contains the California Building Standards, including the California Plumbing Code (Part 5), which promotes water conservation. Title 20 addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures:

- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.

- Title 20, California Administrative Code, Section 1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters.

- Title 20, California Administrative Code, Section 1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.

- Health and Safety Code, Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.

- Health and Safety Code, Section 116785 prohibits installation of residential water softening or conditioning appliances unless certain conditions are satisfied, and includes the requirement that water conservation devices on fixtures using softened or conditioned water be installed.

Regional Level

Regional Urban Water Management Plan

In accordance with State legislation, MWDOC adopted an updated *Regional Urban Water Management Plan* in 2011. The *Regional Urban Water Management Plan* analyzes past, current, and projected future water supply and demand as they relate to population density, types of water use, water quality, climate, water source availability and reliability, alternate water sources, and potential water shortages. In addition, MWDOC has developed a strategy to increase water supply and reduce demand through conservation and reduction targets.

WASTEWATER

Regional Level

Water Quality Control Plan for the Santa Ana Region

The City is located within the jurisdictional boundaries of the Santa Ana Regional Water Quality Control Board (SARWQCB). The SARWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Chapter 4 of the *Water Quality Control Plan* for the Santa Ana Region outlines policies and regulations for municipal

wastewater treatment, disposal, and reclamation. The standards contained within the *Water Quality Control Plan* are designed to provide developers with a uniform approach for the design and installation of adequate systems to control wastewater and wastewater treatment/sewage disposal impacts from the City, and to prevent any potential contamination of groundwater at the discharge site.

Regional Urban Water Management Plan

The updated MWDOC *Regional Urban Water Management Plan* provides information about water recycling in the region, including wastewater generation, collection, treatment, and disposal. The *Regional Urban Water Management Plan* describes the current recycled water uses as well as potential future recycled water uses.

SOLID WASTE

Solid Waste Management and Resource Recovery Act of 1972

The Solid Waste Management and Resource Recovery Act of 1972 is the legislation that addresses solid waste. The California Integrated Waste Management Board (CIWMB), which was created by this Act, was given broad authority related to solid waste handling, disposal, and reclamation. Under this Act, the CIWMB initially (1) created a State solid waste management and resource recovery policy; (2) developed minimum standards for solid waste handling and disposal; and (3) approved county Solid Waste Management Plans (SWMP). The CIWMB was responsible for enforcing the legal provisions dealing with solid waste management and disposal for protecting the environment and public health and safety.

California Integrated Waste Management Act

In 1989, the Legislature adopted the California Integrated Waste Management Act of 1989 (AB 939), in order to "reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible." The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. AB 939 established a waste management hierarchy as follows:

- Source Reduction;
- Recycling;
- Composting;
- Transformation; and
- Disposal.

The law also required that each county prepare a new Integrated Waste Management Plan and each city prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. The SRRE is required to identify how each jurisdiction will meet the mandatory state waste diversion goal of 50 percent by the year 2000. The Act mandated that California's 450 jurisdictions (i.e., cities, counties, and regional waste management compacts), implement waste management programs aimed at a 25 percent diversion rate by 1995 and a 50 percent diversion rate by 2000. If the 50 percent goal was not met by the end of 2000, the jurisdiction was required to submit a petition for a goal extension to

CalRecycle. Senate Bill (SB) 2202 made a number of changes to the municipal solid waste diversion requirements under the Integrated Waste Management Act. These changes included a revision to the statutory requirement for 50 percent diversion of solid waste to clarify that local governments shall continue to divert 50 percent of all solid waste on and after January 1, 2000.

CalRecyle

The management of solid waste is governed by regulations established by CalRecycle, which is the new home of California's recycling and waste reduction efforts. Officially known as the Department of Resources Recycling and Recovery, CalRecycle is a new department within the California Natural Resources Agency and administers programs formerly managed by the California Integrated Waste Management Board (CIWMB) and Division of Recycling. CalRecycle delegates local permitting, enforcement, and inspection responsibilities to Local Enforcement Agencies. In 1997, some of the regulations adopted by the State Water Quality Control Board pertaining to landfills (Title 23, Chapter 15) were incorporated with CIWMB regulations (Title 14) to form Title 27 of the California Code of Regulations.

Per Capita Disposal Measurement Act of 2008

SB 1016, Wiggins, Chapter 343, Statutes of 2008, passed in 2008. It introduced a per capita disposal measurement system that measures the 50 percent diversion requirement using a disposal measurement equivalent. The bill repealed the board's two-year process, requiring instead that the board make a finding whether each jurisdiction was in compliance with the act's diversion requirements for calendar year 2006 and to determine compliance for the 2007 calendar year, and after, based on the jurisdiction's change in its per capita disposal rate. The board is required to review a jurisdiction's compliance with those diversion requirements in accordance with a specified schedule, which is conditioned upon the board finding that the jurisdiction is in compliance with those requirements or has implemented its source reduction and recycling element and household hazardous waste element. The bill requires the board to issue an order of compliance if the board finds that the jurisdiction has failed to make a good faith effort to implement its source reduction and recycling element or its household hazardous waste element, pursuant to a specified procedure.

The per capita disposal rate is a jurisdiction-specific index, which is used as one of several "factors" in determining a jurisdiction's compliance with the intent of AB 939, and allows CalRecycle and jurisdictions to set their primary focus on successful implementation of diversion programs. Meeting the disposal rate targets is not necessarily an indication of compliance. Huntington Beach's most current Disposal Rate Targets as calculated by CalRecycle are 10.4 pounds per day per Resident and 31.2 pounds per day Per Employee.[9]

5.7.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

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 13.1 of this EIR. The Initial Study includes questions relating to public services and utilities. The issues presented in

[9] CalRecycle, Website: http://www.calrecycle.ca.gov/lgcentral/Reports/OnLineDisposalRateCalc.aspx?ReportingEntityID= 1232&ReportYear=2011&Mode=Edit, accessed January 24, 2013.

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 with respect to each category:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects;
- Have insufficient water supplies available to serve the project from existing entitlement and resources, and new or expanded entitlement is needed;
- Result in a determination by the wastewater treatment provider, which serves or may serve the project that does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Comply with Federal, State, and local statutes and regulations related to solid waste; and/or
- Include a new or retrofitted storm water treatment control Best Management Practice (BMP) (refer to Section 10.0, *Effects Found Not To Be Significant*).

5.7.4 IMPACTS AND MITIGATION MEASURES

WATER SERVICES

- **PROJECT IMPLEMENTATION WOULD NOT SIGNIFICANTLY INCREASE THE DEMAND FOR WATER SUCH THAT NEW ENTITLEMENTS OR RESOURCES ARE NEEDED.**

Impact Analysis:

Short-Term Construction

The project site currently consists of a former gun range which is no longer in use. Therefore, there is no existing demand for water associated with the site. Remediation at the site and construction of the proposed project would create a minor demand for water during the construction period. The construction activities that would create a demand for water include watering soil for fugitive dust control, adding water to backfill material, spraying concrete, painting, and equipment and site cleanup, among others. Construction activities are temporary in nature, do not require substantial amounts of water, and would not result in an increase in water demand that would require new

entitlements or resources. The City anticipates it would be able to accommodate the project's water demand during construction with existing water supplies.[10] As such, construction activities would result in a less than significant impact on the existing water supply and infrastructure.

Long-Term Operations

Project implementation would result in a long-term water demand for the proposed recreational use during operations. Operation of the project would create an estimated total potable water demand of approximately 245 gallons per day (gpd) on an average day (0.27 AFY).[11]

The project site would connect to existing 12-inch water pipelines within Goldenwest Street and Gothard Street. The City anticipates it would be able to accommodate the proposed project's demand for potable water services in combination with other water demands throughout the City with existing water supplies during normal, single-dry, and multiple-dry water years. The proposed project is consistent with the City's long-range development plans, as it would represent a recreational use under the existing "Open Space-Park" (OS-P) General Plan designation for the site. Based upon the *2010 Urban Water Management Plan*, the project's water demand represents less than one percent of the projected water supply demand for the City for the year 2035.[12] As the *2010 Urban Water Management Plan* indicates that available groundwater and imported sources would be sufficient to serve the City through 2035, the project's water demand would be met. Given the scope and nature of the project and minor amount of water that would be required, no new entitlements would be necessary and significant impacts related to the expansion of existing water facilities would not occur.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

WASTEWATER SERVICES

- **PROJECT IMPLEMENTATION WOULD RESULT IN A LESS THAN SIGNIFICANT IMPACT TO WASTEWATER SERVICES.**

Impact Analysis:

Short-Term Construction

During all phases of construction, a private contracted vendor would provide and maintain portable toilets at the construction site. Typically, one 68-gallon portable toilet is provided for every ten persons at the construction site. The contracted vendor would empty the portable toilets regularly and dispose of the waste off-site. Construction personnel would generate a negligible amount of wastewater. Therefore, no measurable wastewater flows are anticipated and the existing wastewater capacity would not be constrained during project construction. In addition, no disruption of

[10] Written correspondence with Duncan Lee of the City of the Huntington Beach Public Works Department, dated January 11, 2013.
[11] Derived from a water usage factor of 50 gallons/day/acre for parks obtained from the *City of San Clemente Water Master Plan*, 2006.
[12] Percentage obtained by dividing the *2010 Urban Water Management Plan's* water demand projections by the project's total water demand.

wastewater service is expected to occur as a result of construction activities. Therefore, construction activities would result in a less than significant impact on wastewater service and infrastructure.

Long-Term Operations

Project implementation would result in nominal long-term wastewater generation from the proposed park project, generally as a result of restroom facilities. According to the City, there is an existing 6-inch diameter sewer lateral extending from close proximity to the project site to a 15-inch sewer in Goldenwest Street which conveys flows northerly to the existing 33-inch OCSD trunk line in Slater Avenue. Additionally, there is an existing 10-inch sewer main near the cul-de-sac terminus of Talbert Avenue which runs northerly in Gothard Street and conveys flows to an existing 42-inch OCSD trunk line in Slater Avenue.[13]

Utilizing a standard wastewater generation rate of 129 gpd/acre from the OCSD, the project would be anticipated to result in approximately 633 gpd of wastewater. The City conveys all of its wastewater to OCSD for treatment and disposal. If 100 percent of the project's estimated wastewater went to Plant No. 1, it would represent 0.0005 percent of the current average flow; if the project's wastewater went to Plant No. 2, it would represent 0.0004 percent of the current average flow. Due to the minimal increase in wastewater flows, it is anticipated that existing facilities could serve the proposed project's wastewater generation. Given the scope and nature of the project and minor amount of wastewater that would be generated, no new entitlements would be necessary and significant impacts related to the expansion of existing wastewater facilities would not occur.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

STORMWATER FACILITIES

- **THE PROJECT WOULD NOT RESULT IN NEW STORMWATER DRAINAGE FACILITIES THAT WOULD RESULT IN SIGNIFICANT ENVIRONMENTAL EFFECTS.**

Impact Analysis: Long-term reuse proposed for the project would include a recreational use which could include uses such as a children's playground/park area, dog park, basketball courts, and tennis courts. However, in lieu of the outdoor basketball and tennis courts, the City may implement a skate park facility. As a result, portions of the project site would be impermeable with a potential to result in an increased amount of runoff in comparison to existing conditions. The proposed project would implement on-site drainage facilities to accommodate stormwater runoff and address potential pollutants in accordance with the current Waste Discharge Requirements Permit for the County of Orange (MS4 Permit). The project would be in compliance with all SARWQCB requirements and the City would submit a Water Quality Management Plan (WQMP) to the City for review and approval. Use of BMPs would ensure that all on-site surface water would be directed to existing storm drains at the adjacent Huntington Central Park Sports Complex, in accordance with standard drainage facility design requirements. Therefore, the project would not result in new stormwater drainage facilities that would result in significant environmental effects.

[13] Written correspondence with Mr. Steve Bogart of the City of Huntington Beach Public Works Department dated January 18, 2013.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

SOLID WASTE

- **IMPLEMENTATION OF THE PROPOSED PROJECT WOULD NOT GENERATE SOLID WASTE THAT EXCEEDS THE PERMITTED CAPACITY OF THE LANDFILL SERVING THE CITY.**

Impact Analysis: Due to the nature of the proposed project (park use), a limited amount (approximately 0.42 tons per year[14]) of solid waste is anticipated to be generated. Rainbow Environmental Services currently provides solid waste collection services to the project area. Rainbow Environmental Services operates a transfer station in Huntington Beach, where waste is sorted and placed on the appropriate transfer vehicle for transport to the ultimate disposal site. According to CalRecycle, the City generated 164,380 tons of solid waste in 2011, of which 99 percent was disposed of at the Frank R. Bowerman Landfill.[15] The Frank R. Bowerman Landfill has a maximum permitted throughput of 11,500 tons per day, a remaining capacity of 205,000,000 cubic yards, and is not anticipated to close until 2053.[16] The City's 2006 (most recent year available) diversion rate was 71 percent, and is anticipated to currently be at a similar percentage.[17] The project's 0.42 tons of solid waste per year (0.001 tons per day) would represent less than one percent of both the City's 2011 total solid waste generation and maximum permitted throughput of the Frank R. Bowerman Landfill. The nominal increase in solid waste from the project would have a negligible impact upon the existing and projected landfill capacity of the Frank R. Bowerman Landfill. Impacts with regards to solid waste would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

- **THE PROJECT WOULD BE SUBJECT TO STATE AND LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE.**

Impact Analysis: AB 939 and SB 2202 require that local jurisdictions divert at least 50 percent of all solid waste, and that each county prepare a new Integrated Waste Management Plan and each city prepare a Source Reduction and Recycling Element (SRRE) by July 1, 1991. SB 1016 introduced a per capita disposal measurement system that measures the 50 percent diversion requirement using a disposal measurement equivalent.

As discussed above, the City reported a 71 percent diversion rate in 2006, which is anticipated to be

[14] Solid waste generation based upon assumptions within the California Emissions Estimator Model, which utilizes information from CalRecycle.
[15] CalRecycle, *Jurisdiction Disposal by Facility*, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=OriginJurisdictionIDs%3d205%26ReportYear%3d2011%26ReportName%3dReportEDRSJurisDisposalByFacility, accessed December 20, 2012.
[16] CalRecycle, *Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/Detail/, accessed December 20, 2012.
[17] CalRecycle, *Jurisdiction Diversion/Disposal Rate Summary (1995-2006)*, http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversion.aspx, accessed December 20, 2012.

similar to the City's current diversion rate. The proposed project would result in the operation of a recreational use (i.e., children's playground/park area, dog park, basketball courts, and tennis courts, or a skate park in place of the courts) that would generate minimal amounts of solid waste. Notwithstanding, the proposed park would be required to comply with the City's SRRE for diverting solid waste. Compliance with the SRRE would reduce the volume of solid waste ultimately disposed of at a landfill. As noted above, the project would generate nominal solid waste and adequate capacity exists at the Frank R. Bowerman Landfill. Therefore, less than significant impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.7.5 CUMULATIVE IMPACTS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS TO WATER SUPPLY, WASTEWATER GENERATION, STORMWATER, OR SOLID WASTE GENERATION.**

Impact Analysis: The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. The project site is located within the central portion of the City. There are five identified cumulative projects within approximately one mile of the project site that have highest potential to interact with the proposed project, consisting of the proposed Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use Project. However, this analysis considers an additional 22 projects throughout the City in an effort to provide a conservative analysis of cumulative impacts.

In relation to past, present, and reasonable foreseeable future development, the proposed project would cumulatively contribute to an increased demand for water, wastewater, stormwater, and solid waste utilities. Additional related projects would add to the cumulative demand for such utilities through the introduction of new residents, tenants, and users of the proposed facilities. However, this growth has been considered for in long-term plans, and these demands are anticipated to be within the projected service capabilities of the City, OCSD, OCFCD and local landfill. The proposed project is consistent with the City's General Plan designation for the site, and thus is accounted for in local and regional planning documents that account for growth and utility demand. The site is located in an area that is currently served by all utilities (i.e., water, wastewater, stormwater and solid waste). Existing facilities can be readily extended into the area to serve the proposed development. Thus, impacts in this regard are not expected to be cumulatively considerable and are less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.7.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No unavoidable significant impacts related to utilities have been identified.

5.8 TRAFFIC AND CIRCULATION

This section is based upon the *Gun Range Remediation and Reuse Project Traffic Analysis* (*Traffic Analysis*) dated March 2013, prepared by Stantec, which is included as Appendix 13.9, *Traffic Analysis*. The purpose of the *Traffic Analysis* is to evaluate development of the proposed project from a traffic and circulation standpoint. This analysis considers impacts on local and regional transportation facilities. Mitigation measures are recommended, if necessary, to avoid or reduce project impacts on traffic and circulation.

The *Traffic Analysis* analyzes existing and future weekday daily a.m. and p.m. peak hour traffic conditions for the following conditions:

- Existing;
- Existing Plus Project;
- Short-Range Without Project (2016);
- Short-Range With Project (2016);
- Long-Range Without Project (2030); and
- Long-Range With Project (2030).

5.8.1 EXISTING SETTING

STUDY AREA

Study Intersections

The locations of the four study intersections analyzed within the *Traffic Analysis* are listed below; refer to Exhibit 5.8-1, *Study Intersection Locations*. These intersections provide local access to the project area.

Study Intersections

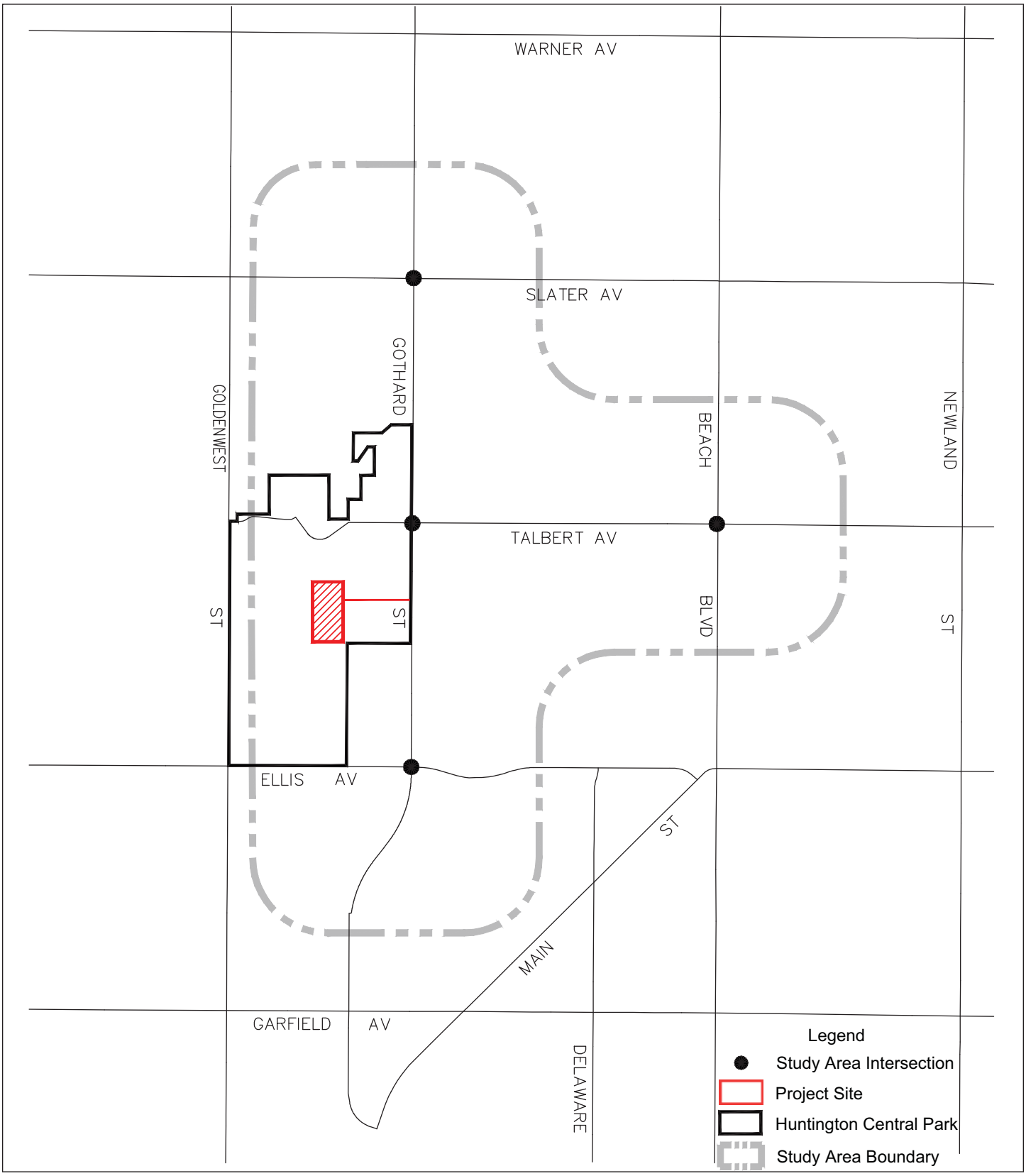
1. Gothard Street/Slater Avenue (signalized, secondary intersection);
2. Gothard Street/Talbert Avenue (signalized, secondary intersection);
3. Gothard Street/Ellis Avenue (signalized, secondary intersection); and
4. Beach Boulevard/Talbert Avenue (signalized, primary intersection).

INTERSECTION LEVEL OF SERVICE METHODOLOGY

City of Huntington Beach

Intersection Capacity Utilization Method of Analysis

In conformance with City of Huntington Beach requirements, existing a.m. and p.m. peak hour operating conditions for the key signalized study intersections were evaluated using the (Intersection Capacity Utilization) ICU method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements.



Source: Stantec.

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ENVIRONMENTAL IMPACT REPORT FOR THE REMEDIATION AND REUSE OF THE FORMER GUN RANGE WITHIN HUNTINGTON CENTRAL PARK

Study Intersection Locations

Exhibit 5.8-1

The ICU value translates to a level of service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. The six qualitative categories of LOS have been defined along with the corresponding ICU value range and are shown in Table 5.8-1, *Level of Service Criteria and Descriptions*.

Table 5.8-1
Level of Service Criteria and Descriptions

LOS	Descriptions	Delay (seconds)	ICU
A	LOS A describes operations with low control delay, up to 10 seconds per vehicle. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.	<10	<0.61
B	LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than the LOS A, causing higher levels of delay.	10 – 20	<0.71
C	LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20 – 35	<0.81
D	LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35 – 55	<0.91
E	LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.	55 – 80	<1.00
F	LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high V/C ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	>80	Above 1.00

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

California Department of Transportation (Caltrans)

In conformance with the current *California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies*, existing and projected peak hour operating conditions at the signalized state-controlled study intersection (Beach Boulevard/Talbert Avenue) within the study area has also been evaluated using the 2000 Highway Capacity Manual (HCM) methodology for signalized intersections.

Highway Capacity Manual Method of Analysis

Based on the HCM methodology, LOS for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

In accordance with the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle for the intersection. Table 5.8-1 identifies the six qualitative categories of LOS that have been defined along with the corresponding HCM control delay value range for signalized intersections.

EXISTING INTERSECTION LEVELS OF SERVICE

City of Huntington Beach

Table 5.8-2, *Existing Intersection Level of Service Summary*, summarizes the existing peak hour LOS for the study intersections based on existing traffic volumes and current street geometry using the City's analysis methodology.

Table 5.8-2
Existing Intersection Level of Service Summary

Study Intersection	AM Peak Hour[1]		PM Peak Hour[1]	
	ICU[2]	LOS	ICU[2]	LOS
Gothard Street/Slater Avenue	0.46	A	0.56	A
Gothard Street/Talbert Avenue	0.47	A	0.39	A
Beach Boulevard/Talbert Avenue	0.65	B	0.75	C
Slater Avenue/Ellis Avenue	0.36	A	0.40	A

Notes:
1 – Deficient intersection operations are shown in **bold**.
2 – ICU = intersection capacity utilization.
Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

As indicated in Table 5.8-2, all study intersections are currently operating at an acceptable LOS (LOS C or better) during the a.m. and p.m. peak hours based on City of Huntington Beach performance criteria.

Caltrans

Table 5.8-3, *Existing State Highway Intersection Level of Service Summary*, summarizes existing conditions a.m. and p.m. peak hour LOS of the State Highway study intersection.

As shown in Table 5.8-3, the State Highway study intersections are currently operating at an acceptable LOS according to Caltrans performance criteria.

Table 5.8-3
Existing Intersection Level of Service Summary

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay (seconds)	LOS	Delay (seconds)	LOS
Beach Boulevard/Talbert Avenue	34.8	C	39.5	D

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

ANALYSIS METHODOLOGY

The traffic analysis is based upon the potential impacts associated with the proposed project. The traffic analysis evaluates existing operating conditions within the project vicinity, estimates the trip generation potential of the proposed project, and forecasts future operating conditions (i.e., LOS) with and without the proposed project. For a detailed discussion of the analytical methodology, refer to Appendix 13.9.

Preparation of the *Traffic Analysis* was coordinated with City of Huntington Beach Public Works Department staff and follows the *Intersection Capacity Utilization* (ICU) analysis method for analyzing signalized City intersections. The signalized Caltrans intersection (Beach Boulevard/Talbert Avenue) was also analyzed using the delay-based methodology (average vehicle delay in seconds) in accordance with Caltrans guidelines. The analysis is consistent with the requirements and procedures outlined in the most current *Congestion Management Program (CMP) for Orange County*.

Growth Assumptions

Future growth in the City of Huntington Beach is portrayed in the Orange County Projections 2010 (OCP-2010) and also in the Citywide land use database recently prepared by the City. The latter is the basis for long-range traffic forecasting and the Citywide growth statistics are as follows:

Category	*2007*	*2030*	*Increase*
Population	216,471	233,457	8%
Housing	76,890	83,396	8%
Employment	81,694	84,127	15%

These forecasts are similar to those in OCP-2010, and show an eight percent increase in population and housing and a 15 percent increase in employment by 2030 in Huntington Beach.

Long-range (2030) volumes used in this analysis are derived using the Huntington Beach Traffic Model (HBTM). The HBTM uses the land use projections listed above to forecast future traffic volumes on the citywide arterial street system.

For the short-range analysis, background (no project) traffic volumes were derived by applying a four percent growth factor to the 2012 counts, which results in one percent growth per year. As noted earlier in this chapter, this represents a 2016 time frame and accounts for ambient growth and related projects during this time period. The project traffic is then added to the 2016 no project conditions to derive the 2016 with project data.

EXISTING TRANSIT SERVICE

The project area is primarily served by OCTA bus transit line Route 25. The nearest bus stop to the project site is located along Goldenwest Street near the entrance to Huntington Central Park.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Sidewalks and Class II bicycle lanes are located in the vicinity of the project site, along Gothard Street and Goldenwest Street.

5.8.2 REGULATORY SETTING

CALTRANS

Caltrans publishes a document entitled *Guide for the Preparation of Traffic Impact Studies*, which provides guidelines and recommended elements of traffic studies for projects that could potentially impact state facilities such as State Route highways and freeway facilities. This is a State-level document that is used by each of the Caltrans District offices.

The Guide defines when traffic studies should be conducted to address impacts to state facilities, but does not define quantitative impact standards. The Guide states that Measures of Effectiveness (MOEs) are used to evaluate Caltrans facilities, and that the agency strives to maintain a LOS value of C on its facilities. However, the Guide states that the appropriate target LOS varies by facility and congestion level, and is defined differently by Caltrans depending on the analyzed facility.

ORANGE COUNTY TRANSPORTATION AUTHORITY

OCTA is a multi-modal transportation agency that began in 1991 with the consolidation of seven separate agencies. OCTA serves Orange County residents and travelers by providing countywide bus and paratransit service, Metrolink rail service, the 91 Express Lanes, freeway, street and road improvement projects, individual and company commuting solutions, motorist aid services, and by regulating taxi operations. State statute requires that a congestion management program be developed, adopted, and updated biennially for every county that includes an urbanized area and requires that it include every city and the county government within that county. As the Congestion Management Agency for Orange County, OCTA is responsible for implementing the CMP for the County.

The purpose of the Orange County CMP is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality planning programs throughout the County. The City of Huntington Beach is required to show continued compliance with the countywide CMP. The benefits of compliance with the CMP provisions include the allocation of the City's fair share of gas tax subventions collected by the State of California.

CITY OF HUNTINGTON BEACH

City of Huntington Beach General Plan

Based on the *City of Huntington Beach General Plan Circulation Element*, the basic function of the circulation system is to provide for the movement of goods and people, including pedestrians, bicycles, buses, trucks, and the automobile. The *Circulation Element* provides the guidance to ensure the circulation system meets the City's key objectives, including accommodating movement and preserving the City's quality living environment.

5.8.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

DEFINITION OF SIGNIFICANT IMPACT

Significant Study Intersection Traffic Impact Criteria

Traffic impacts are identified if a project would result in a significant adverse change in traffic conditions on an analyzed facility. A significant impact is typically identified if traffic generated by a project would cause service levels to deteriorate beyond a threshold limit specified by the overseeing agency. Impacts can also be significant if an intersection is already operating below the poorest acceptable level and project traffic would substantially worsen the condition, thereby causing a further decline below the threshold.

Based on the *City of Huntington Beach General Plan Circulation Element*, the City goal for peak hour intersection operation is LOS E or better at critical intersections, LOS D or better at principal intersections and LOS C or better at secondary intersections.

Caltrans "endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities"; it does not require that LOS D (shall) be maintained. For this analysis, LOS D is considered the target level of service standard and is utilized to assess the project impacts at the state-controlled study intersections.

<u>City of Huntington Beach</u>

To determine whether the addition of project-generated trips results in a significant impact at a study intersection, and thus requires mitigation, the City of Huntington Beach utilizes the following thresholds of significance:

- A significant project impact occurs at a signalized study intersection when the addition of project-generated trips causes critical intersections to operate at LOS E, principal intersections to operate at LOS D or worse, and secondary intersections to operate at LOS C or worse; or

Caltrans

While Caltrans has not established traffic thresholds of significance, this analysis utilizes the following traffic threshold of significance:

- A significant project impact occurs at a State Highway signalized study intersection when the addition of project-generated trips causes the peak hour level of service of the study intersection to change from acceptable operation (LOS A, B, C, or D) to deficient operation (LOS E or F).

Significance Criteria

Environmental impact thresholds as indicated in Appendix G of the *CEQA Guidelines* (Initial Study Checklist Form) are also used as significance thresholds in this analysis. As such, a project would create a significant impact if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (refer to Section 10.0, *Effects Found Not To Be Significant*);

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

- Result in inadequate emergency access (refer to Section 10.0, *Effects Found Not To Be Significant*); and

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

5.8.4 IMPACTS AND MITIGATION MEASURES

PROJECT TRIP GENERATION

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. The proposed project trip generation information was obtained from the *Traffic Analysis*, which utilized project-specific information from the City as well as information from a recent traffic study conducted by the City for a nearby skate park. Table 5.8-4,

Trip Generation Rates for Proposed Project Land Uses, summarizes the trip generation rates used to calculate the number of trips forecast to be generated by the proposed project land use.

The proposed project would involve the remediation of the project site which is a former gun range, and construction of a park use to be integrated into Huntington Central Park. The proposed park use could consist of a park area, dog park, basketball courts, tennis courts, parking, and restrooms. However, in lieu of the outdoor basketball and tennis courts, the City may implement a 1.07-acre skate park facility. Since implementation of a skate park would result in a higher trip generation than basketball and tennis courts, this analysis conservatively assumes that a skate park would be constructed.

Table 5.8-4
Trip Generation Rates for Proposed Project Land Uses

Land Use	Amount	Daily Trip Generation Rate	AM Peak Hour Trip Generation Rate			PM Peak Hour Trip Generation Rate			Daily Trips
			In	Out	Total	In	Out	Total	
Park Area	0.84 (acres)	143.0	10	5	15	5	10	15	120
Dog Park	2.00 (acres)	100.0	15	10	25	10	15	25	200
Skate Park	30.00 (1,000 square feet)	9.1	5	4	9	19	22	41	274
Total			***30***	***19***	***49***	***34***	***47***	***81***	***594***

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

Project Trip Distribution and Assignment

The general, directional traffic distribution pattern for the proposed project is presented in Figure 3-2, *Project Trip Distribution*, of the *Traffic Ana*lysis (as provided in Appendix 13.9). Project traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the largely local use anticipated for the project.

The anticipated a.m. and p.m. peak hour traffic volumes associated with the project are presented in Figures A-1 through A-5, *Lane Configurations and Intersection Turning Movements*, of the *Traffic Analysis* (as provided in Appendix 13.9). The traffic volume assignments presented in Figures A-1 through A-5 reflect the traffic distribution characteristics shown in Figure 3-2 of the *Traffic Analysis*.

FORECAST EXISTING PLUS PROJECT CONDITIONS – LOCAL ROADWAYS

- **PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC ON LOCAL ROADWAYS FOR EXISTING CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.**

Impact Analysis: Forecast existing plus project conditions a.m. and p.m. peak hour volumes were derived by adding forecast project-generated trips to existing conditions traffic volumes.

Figure A-1, *Existing Plus Project Lane Configurations and Intersection Turning Movements*, of the *Traffic Analysis* (as provided in Appendix 13.9), shows forecast existing plus project conditions a.m. and p.m. peak hour volumes at the study intersections. Table 5.8-5, *Forecast Existing Plus Project Local Intersections LOS Summary*, summarizes forecast existing plus project conditions a.m. and p.m. peak hour LOS of the study intersections.

Table 5.8-5
Forecast Existing Plus Project Local Intersections LOS

Study Intersection	Existing Conditions[1]		Forecast Existing Plus Project Conditions[1]		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	ICU[2] – LOS	ICU[2] – LOS	ICU[2] – LOS	ICU[2] – LOS	
Gothard Street/Slater Avenue	0.46 – A	0.56 – A	0.46 – A	0.56 – A	No
Gothard Street/Talbert Avenue	0.47 – A	0.39 – A	0.49 – A	0.41 – A	No
Beach Boulevard/Talbert Avenue	0.65 – B	0.75 – C	0.65 – B	0.75 – C	No
Slater Avenue/Ellis Avenue	0.36 – A	0.40 – A	0.37 – A	0.40 – A	No

Notes:
1. Deficient intersection operations are shown in **bold**.
2. ICU = intersection capacity utilization.

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

As shown in Table 5.8-5, with the addition of project-generated trips, the study intersections are all forecast to continue to operate at an acceptable LOS (LOS C or better) according to City of Huntington Beach performance criteria. Thus, no significant impacts would result to the existing roadway system upon completion of project construction and no mitigation measures are required.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

FORECAST EXISTING PLUS PROJECT CONDITIONS – STATE HIGHWAYS

- **PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC FOR FORECAST EXISTING PLUS PROJECT CONDITIONS AT A CALTRANS INTERSECTION.**

Impact Analysis: Table 5.8-6, *Forecast Existing Plus Project State Highway Intersection LOS*, summarizes forecast existing plus project conditions a.m. and p.m. peak hour LOS of the State Highway study intersection.

As shown in Table 5.8-6, with the addition of project-generated trips, the State Highway study intersection is forecast to continue to operate at an acceptable LOS (LOS D) according to Caltrans performance criteria. Therefore, the proposed project is forecast to result in no significant traffic impacts at the State Highway study intersection for forecast existing plus project conditions.

Table 5.8-6
Forecast Existing Plus Project State Highway Intersection LOS

Study Intersection	Existing Conditions		Forecast Existing Plus Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	Delay[1] – LOS	Delay[1] – LOS	Delay[1] – LOS	Delay[1] – LOS	
Beach Boulevard/Talbert Avenue	34.8 – C	39.5 – D	34.9 – C	40.1 – D	No

Notes:
1 – Delay is shown in seconds.
Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

SHORT-RANGE YEAR 2016 WITH PROJECT CONDITIONS – LOCAL ROADWAYS

- **PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC ON LOCAL ROADWAYS UNDER SHORT-RANGE YEAR 2016 CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.**

Impact Analysis: The short-range operational year 2016 traffic with the proposed project is considered in comparison to the short-range operational year 2016 traffic conditions without the project. As previously noted, 2016 without project volumes were estimated by applying a growth factor to the existing counts, then adding the project traffic to these background volumes.

Figure A-3, *2016 With-Project Lane Configurations and Intersection Turning Movements*, of the *Traffic Analysis* (as provided in Appendix 13.9), shows short-range year 2016 with project conditions a.m. and p.m. peak hour volumes at the study intersections.

Table 5.8-7, *Short-Range Year 2016 Local Intersections LOS Summary*, summarizes short-range year 2016 with and without project conditions a.m. and p.m. peak hour LOS of the study intersections.

As shown in Table 5.8-7, with the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS (LOS C or better) according to City of Huntington Beach performance criteria. Thus, no significant impacts would result to the short-range year 2016 roadway system upon completion of project construction and no mitigation measures are required.

Table 5.8-7
Short-Range Year 2016 Local Intersections LOS Summary

Study Intersection	2016 Without Project Conditions[1]		2016 With Project Conditions[1]		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	ICU[2] – LOS	ICU[2] – LOS	ICU[2] – LOS	ICU[2] – LOS	
Gothard Street/Slater Avenue	0.49 – A	0.58 – A	0.50 – A	0.58 – A	No
Gothard Street/Talbert Avenue	0.49 – A	0.40 – A	0.50 – A	0.42 – A	No
Beach Boulevard/Talbert Avenue	0.68 – B	0.77 – C	0.68 – B	0.78 – C	No
Slater Avenue/Ellis Avenue	0.37 – A	0.40 – A	0.37 – A	0.40 – A	No

Notes:
1. Deficient intersection operations are shown in **bold**.
2. ICU = intersection capacity utilization.

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

SHORT-RANGE YEAR 2016 WITH PROJECT CONDITIONS – STATE HIGHWAYS

- **PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC UNDER SHORT-RANGE YEAR 2016 CONDITIONS AT A CALTRANS INTERSECTION.**

Impact Analysis: Table 5.8-8, *Short-Range Year 2016 State Highway Intersection LOS Summary*, summarizes short-range year 2016 with and without project conditions a.m. and p.m. peak hour LOS of the State Highway study intersection.

Table 5.8-8
Short-Range Year 2016 State Highway Intersection LOS Summary

Study Intersection	2016 Without Project Conditions		2016 With Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	Delay[1] – LOS	Delay[1] – LOS	Delay[1] – LOS	Delay[1] – LOS	
Beach Boulevard/Talbert Avenue	35.6 – D	41.0 – D	35.9 – D	41.6 – D	No

Notes:
1 – Delay is shown in seconds.

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

As shown in Table 5.8-8, with the addition of project-generated trips, the State Highway study intersection is forecast to continue to operate at an acceptable LOS (LOS D or better) according to Caltrans performance criteria. Based on the thresholds of significance, the proposed project is forecast to result in no significant traffic impacts at the State Highway study intersection for short-range year 2016 with project conditions. Impacts are less than significant in this regard and no mitigation measures are required.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-RANGE YEAR 2030 WITH PROJECT CONDITIONS – LOCAL ROADWAYS

- **PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC ON LOCAL ROADWAYS UNDER LONG-RANGE YEAR 2030 CONDITIONS WHEN COMPARED TO THE TRAFFIC CAPACITY OF THE STREET SYSTEM.**

Impact Analysis: The long-range operational year 2030 traffic with the proposed project is considered in comparison to the long-range operational year 2030 traffic conditions without the project. As previously discussed, the long-range 2030 analysis compares the current *General Plan* to the proposed project. The long-range 2030 with project a.m. and p.m. peak hour intersection volumes were derived by adding project traffic volumes to the 2030 current *General Plan* conditions.

Figure A-5, *2030 With-Project Lane Configurations and Intersection Turning Movements*, of the *Traffic Analysis* (as provided in Appendix 13.9), shows long-range operational year 2030 with project conditions a.m. and p.m. peak hour volumes at the study intersections.

Table 5.8-9, *Long-Range Year 2030 Local Intersections LOS Summary*, summarizes long-range operational year 2030 with and without project conditions a.m. and p.m. peak hour LOS of the study intersections.

Table 5.8-9
Long-Range Year 2030 Local Intersection LOS Summary

Study Intersection	2030 Without Project Conditions[1]		2030 With Project Conditions[1]		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	ICU[2] – LOS	ICU[2] – LOS	ICU[2] – LOS	ICU[2] – LOS	
Gothard Street/Slater Avenue	0.87 – D	0.71 – C	0.87 – D	0.71 – C	No
Gothard Street/Talbert Avenue	0.61 – A	0.86 – D	0.61 – A	0.88 – D	No
Beach Boulevard/Talbert Avenue	0.83 – D	**1.02 – F**	0.85 – D	**1.03 – F**	**Yes**
Beach Boulevard/Talbert Avenue (Mitigated)	--	--	0.77 – C	0.85 – D	No
Slater Avenue/Ellis Avenue	0.52 – A	0.46 – A	0.52 – A	0.46 – A	No

Notes:
1. Deficient intersection operations are shown in **bold**.
2. ICU = intersection capacity utilization.

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

As shown in Table 5.8-9, with the addition of project-generated trips, the study intersections are forecast to continue to operate at an acceptable LOS (LOS D or better) according to City of Huntington Beach performance criteria, with the exception of the Beach Boulevard/Talbert Avenue intersection which is forecast to operate at deficient LOS F during the p.m. peak hour under both the long-range 2030 with and without project conditions. Therefore, the project would incorporate Mitigation Measure TRA-1, which requires the project to contribute its fair share to the implementation of the following potential improvements for this intersection (also identified in the *Huntington Beach Circulation Element Update*): add second westbound left turn lane; add defacto westbound right turn lane; add separate northbound right turn lane; add second eastbound left turn lane; and stripe defacto eastbound right turn lane. With implementation of these improvements, the Beach Boulevard/Talbert Avenue intersection would operate at an acceptable LOS D in the p.m. peak hour. Thus, with implementation of Mitigation Measure TRA-1, long-range 2030 impacts as a result of the project would be reduced to less than significant levels.

Mitigation Measures:

TRA-1 Prior to issuance of a building permit for the proposed project, the City of Huntington Beach shall contribute its fair share to the implementation of the following potential improvements (also identified in the *Huntington Beach Circulation Element Update*) for the Beach Boulevard/Talbert Avenue intersection:

- Add second westbound left turn lane;
- Add defacto westbound right turn lane;
- Add separate northbound right turn lane;
- Add second eastbound left turn lane; and/or
- Stripe defacto eastbound right turn lane.

Level of Significance: Less Than Significant With Mitigation Incorporated.

LONG-RANGE YEAR 2030 WITH PROJECT CONDITIONS – STATE HIGHWAYS

● PROJECT IMPLEMENTATION WOULD NOT CAUSE A SIGNIFICANT INCREASE IN TRAFFIC UNDER LONG-RANGE YEAR 2030 CONDITIONS AT A CALTRANS INTERSECTION.

Impact Analysis: Table 5.8-10, *Long-Range Year 2030 State Highway Intersection LOS Summary*, summarizes long-range year 2030 with and without project conditions a.m. and p.m. peak hour LOS of the State Highway study intersection.

As shown in Table 5.8-10, the Beach Boulevard/Talbert Avenue intersection is forecast to operate at deficient LOS F during the p.m. peak hour under both the long-range 2030 with and without project conditions according to Caltrans performance criteria. Therefore, as noted above, the project would incorporate Mitigation Measure TRA-1, which requires the City to contribute its fair share to the implementation of the following potential improvements for this intersection (also identified in the *Huntington Beach Circulation Element Update*): add second westbound left turn lane; add defacto westbound right turn lane; add separate northbound right turn lane; add second eastbound left turn lane; and stripe defacto eastbound right turn lane. With implementation of these

improvements, the Beach Boulevard/Talbert Avenue intersection would operate at an acceptable LOS D in the p.m. peak hour. Thus, with implementation of Mitigation Measure TRA-1, long-range 2030 impacts to State Highway facilities as a result of the project would be reduced to less than significant levels.

Table 5.8-10
Long-Range Year 2030 State Highway Intersection LOS Summary

Study Intersection	2030 Without Project Conditions[1]		2030 With Project Conditions[1]		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	Delay[2] – LOS	Delay[2] – LOS	Delay[2] – LOS	Delay[2] – LOS	
Beach Boulevard/Talbert Avenue	48.8 – D	**83.8 – F**	49.3 – D	**85.1 – F**	**Yes**
Beach Boulevard/Talbert Avenue (Mitigated)	--	--	41.2 – D	54.1 – D	No

Notes:
1. Deficient intersection operations are shown in **bold**.
2. Delay is shown in seconds.

Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.

Mitigation Measures: Refer to Mitigation Measure TRA-1.

Level of Significance: Less Than Significant With Mitigation Incorporated.

HAZARDOUS DESIGN FEATURE/SITE ACCESS

- **IMPLEMENTATION OF THE PROJECT WOULD NOT RESULT IN HAZARDS DUE TO A DESIGN FEATURE OR INCOMPATIBLE USES.**

Impact Analysis: Local streets surrounding the project site include Goldenwest Street to the west, Gothard Street to the east, Talbert Avenue to the north, and Ellis Avenue to the south. The site is currently accessed from Gothard Street via a driveway owned by the County of Orange. Upon project completion, the project site would continue to be accessed from Gothard Street via the existing driveway. Improvements would be required along the existing County-owned driveway ("access driveway" as depicted on Exhibit 3-7); an Easement Deed allowing for the City's improvement and use of the driveway was approved by the County on February 9, 2010. According to the *Traffic Analysis*, traffic generated by daily use of the proposed project would be expected to primarily use Gothard Street and Talbert Avenue, with a relatively even distribution of traffic on area streets such as Ellis Avenue. Traffic is likely to disperse to local streets within relatively short distances of the project site. Therefore, implementation of the proposed access location would not result in hazardous conditions. Impacts in this regard would be less than significant and no mitigation is required.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONFLICT WITH POLICIES, PLANS, OR PROGRAMS

- **IMPLEMENTATION OF THE PROJECT WOULD NOT RESULT IN A DECREASE OF THE PERFORMANCE OR SAFETY OF PUBLIC TRANSIT, BICYCLE, OR PEDESTRIAN FACILITIES AS A RESULT OF A CONFLICT WITH ADOPTED POLICIES, PLANS, OR PROGRAMS.**

Impact Analysis: Implementation of the proposed project would not impede existing public transit, bicycle, or pedestrian facilities located within the area. Sidewalks and bike lanes would be maintained along Gothard Avenue and Goldenwest Street, in accordance with City standards. Bus service provided by OCTA would not be affected. Further, the proposed project would not conflict with any of the City's policies in the *Circulation Element* pertaining to public transit, bicycle, or pedestrian facilities.

Thus, implementation of the proposed project would not conflict with adopted policies, plans, or programs that would result in a decrease of the performance or safety of public transit, bicycle, or pedestrian facilities. Impacts in this regard are less than significant and no mitigation measures are required.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

REMEDIATION AND CONSTRUCTION TRAFFIC

- **TRAFFIC ASSOCIATED WITH REMEDIATION OF THE PROJECT SITE AND CONSTRUCTION OF THE PROJECT WOULD NOT RESULT IN A SIGNIFICANT IMPACT TO THE SURROUNDING CIRCULATION NETWORK.**

Impact Analysis: Remediation of the project site and construction of the proposed long-term recreational use at the project site would result in traffic trips associated with soil and material hauling, vendor trips, and construction worker trips. The *Traffic Analysis* used the maximum number of truck trips per day to derive daily truck trip generation. These trips were then converted to passenger car equivalents (PCE) assuming 3.0 PCE per truck. In addition to trucks, construction-related activities include trips by construction workers plus trips for deliveries, inspection, etc. Table 5-8-11, *Remediation/Construction-Related Trip Generation*, summarizes the truck traffic, along with the other construction-related trips assumed in this analysis.

As depicted in Table 5.8-11, a maximum of 282 daily trips would occur during the remediation phase, and 122 daily trips would occur during the project construction phase. A typical construction workday occurs from 7:00 a.m. to 5:00 p.m., with many of the trips (particularly trucks) occurring outside the two peak hours. Using a maximum of 12.5 percent during the conventional peak hours of the surrounding roadways results in a peak hour trip generation of 35 trips for each time period for the worst-case scenario (remediation phase). Table 5.8-12, *Trip Generation Comparison*, summarizes the total trip generation for the remediation phase (worst-case scenario) and provides a comparison against the proposed project operational trip generation for informational purposes. The trips during the worst-case scenario remediation phase would result in less than that of the proposed project. As previously concluded, the proposed project trip generation would not result in

a significant impact. Thus, it is anticipated that trips associated with remediation and project construction would also be less than significant.

Table 5.8-11
Remediation/Construction-Related Trip Generation

Activity	Remediation		Construction	
	Demolition	Soil Hauling	Demolition	Soil Hauling
Duration	20 Days	30 Days	6 Days	35 Days
Truck Trips	51	1,875	38	950
PCE Trips	153	5,625	114	28,50
Project Daily Trips	8	188	19	81
Construction-Related Daily Trips	4	94	10	41
Daily Trips Total	***12***	***282***	***5***	***122***
PCE = Passenger car equivalent				
Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.				

Table 5.8-12
Trip Generation Comparison

Activity	AM Peak Hour			PM Peak Hour			ADT
	In	Out	Total	In	Out	Total	
Remediation	18	17	35	17	18	35	282
Proposed Project	30	19	49	44	37	81	594
Difference	***-12***	***-2***	***-14***	***-27***	***-19***	***-46***	***-312***
Source: Stantec, *Gun Range Remediation and Reuse Project Traffic Analysis*, March 2013.							

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.8.5 CUMULATIVE IMPACTS

- **THE PROPOSED PROJECT ALONG WITH OTHER RELATED CUMULATIVE PROJECTS WOULD NOT RESULT IN CUMULATIVELY CONSIDERABLE IMPACTS RELATED TO TRAFFIC AND CIRCULATION.**

Impact Analysis: The basis for cumulative analysis is presented in Section 4.0, *Basis of Cumulative Analysis*. The project site is located within the central portion of the City. There are five identified cumulative projects within approximately one mile of the project site that have highest potential to interact with the proposed project, consisting of the proposed Senior Center Project, Talbert Lake Water Quality Project, Longs Drugs, Fein Medical Office Building, and Beach and Ellis Mixed Use Project. However, this analysis considers an additional 22 projects throughout the City in an effort to provide a conservative analysis of cumulative impacts.

Traffic from cumulative projects was considered in the long-range 2030 with and without project conditions. The analysis provided above within Section 5.8.4 specifically includes cumulative impacts related to the identified cumulative projects within Section 4.0, *Basis of Cumulative Analysis*.

As determined above, the proposed project would not result in cumulatively considerable traffic impacts in regards to local intersections under the long-range 2030 conditions. However, with regards to the deficient long-range 2030 conditions for the Caltrans intersection (Beach Boulevard/Talbert Avenue), the City would be required to contribute its fair share to the implementation of improvements for this intersection (Mitigation Measure TRA-1).

In addition, given the nature and location of the identified cumulative projects, it is not anticipated that cumulatively considerable impacts related to hazardous traffic conditions would occur. The proposed project, in combination with identified cumulative developments, would not result in the creation of dangerous design features or hazardous intersections. Each project would undergo review by the City of Huntington Beach to ensure that circulation and access components comply with existing City standards.

Additionally, cumulative projects would be required to comply with the City's adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities on a project-by-project basis. Implementation of the proposed project would not impede the existing public transit, bicycle, or pedestrian facilities. Sidewalks and bike lanes along surrounding roadways would be maintained, in accordance with City standards. The proposed project would not conflict with any of the applicable policies of the Circulation Element pertaining to public transit, bicycle, or pedestrian facilities.

As such, the proposed project would not have the potential to result in cumulatively considerable impacts in combination with the identified range of cumulative projects.

Mitigation Measures: Refer to Mitigation Measure TRA-1.

Level of Significance: Less Than Significant With Mitigation Incorporated.

5.8.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable impacts related to traffic and circulation have been identified following implementation of the recommended mitigation measure.

6.0 Long-Term Implications of the Proposed Project

6.0 LONG-TERM IMPLICATIONS OF THE PROPOSED ACTION

If the proposed project is approved and constructed, a variety of short-term and long-term impacts may occur on a local level. During project grading and construction, portions of surrounding uses may be temporarily impacted by dust and noise. Short-term soil erosion may also occur during grading. There may also be an increase in vehicle pollutant emissions caused by grading and construction activities. However, these disruptions would be temporary and may be avoided or lessened to a large degree through mitigation cited in this EIR and through compliance with existing Federal, State, and local regulations; refer to Section 5.0, *Environmental Analysis*.

Ultimate development of the project site may create long-term environmental consequences associated with a transition in land use. Development of the proposed project and the subsequent long-term effects may impact the physical, aesthetic, and human environments. Long-term physical consequences of development include increased traffic volumes, increased noise, increased energy and natural resource consumption, and incremental degradation of local and regional air quality. An analysis of potential long-term implications for the proposed project is provided below.

6.1 IRREVERSIBLE ENVIRONMENTAL CHANGES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Approval of the proposed project would cause irreversible environmental changes, resulting in the following:

- Land, which would be physically altered;
- Soil erosion due to grading and construction activities;
- Increased water usage for the irrigation of landscaping during operation and maintenance of the project;
- Utilization of various new raw materials, such as lumber, sand and gravel for construction;
- Consumption of energy to develop and maintain the project, which may be considered a permanent investment; and
- Incremental increases in vehicular activity in the surrounding circulation system, due to the nature of the development, resulting in associated increases in air pollutant emissions and noise levels.

6.2 GROWTH-INDUCING IMPACTS

Section 15126 of the *CEQA Guidelines* requires that an EIR discuss the project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The *CEQA Guidelines* also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. This section analyzes such potential growth-inducing impacts, based on criteria suggested in the *CEQA Guidelines*.

In general terms, a project may foster spatial, economic, or population growth in a geographic area if it meets any one of the following criteria:

- Removal of an impediment to growth (e.g., establishment of an essential public service and provision of new access to an area);
- Fostering economic expansion or growth (e.g., changes in revenue base and employment expansion);
- Fostering of population growth (e.g., construction of additional housing), either directly or indirectly;
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning, and general plan amendment approval); or
- Development of or encroachment on an isolated or adjacent area of open space (being distinct from an in-fill project).

Should a project meet any one of the above-listed criteria, it may be considered growth inducing. The potential growth-inducing impacts of the proposed project are evaluated below.

Note that the *CEQA Guidelines* require an EIR to "discuss the ways" a project could be growth inducing and to "discuss the characteristics of some projects that may encourage…activities that could significantly affect the environment." However, the *CEQA Guidelines* do not require that an EIR predict (or speculate) specifically where such growth would occur, in what form it would occur, or when it would occur. The answers to such questions require speculation, which CEQA discourages (refer to *CEQA Guidelines* Section 15145).

POPULATION, HOUSING, AND EMPLOYMENT

Population

County of Orange. The County encompasses approximately 798 square miles. It is bordered by Los Angeles County to the north and northwest, San Bernardino County to the northeast, Riverside County to the east, San Diego County to the southeast, and the Pacific Ocean to the west. As of January 2010, the County of Orange had a population of 3,010,232. This represents an increase of approximately 5.8 percent over the County's April 2000 population of 2,846,289.[1]

The Southern California Association of Governments (SCAG) serves as the Metropolitan Planning Organization (MPO) for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Generally, SCAG serves as the regional planning organization for growth management, transportation, and a range of additional planning and environmental issues within southern California. As part of its *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy:*

[1] State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts*. Sacramento, California, November 2012.

Towards a Sustainable Future growth forecast, SCAG projects that the County's population will reach 3,266,000 by 2020 and 3,421,000 by 2035.[2]

City of Huntington Beach. On a local level, the City of Huntington Beach's April 2010 population was 189,992. This represents an increase of approximately 0.19 percent over the City's April 2000 population of 189,627.[3] SCAG projects that the City's population will reach 199,800 by 2025 and 205,500 by 2035.[4]

Table 6-1, *Population Estimates*, provides a summary of both 2000 and 2010 population estimates for Orange County and the City of Huntington Beach.

Table 6-1
Population Estimates

Year	Orange County	City of Huntington Beach
Population		
2000	2,846,289	189,627
2010	3,010,232	189,992
Change	5.8%	0.19%

Source: State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts*. Sacramento, California, November 2012.

Project Site. The site is situated within Huntington Central Park and was previously used as a gun range. The former gun range is situated atop a closed landfill. The landfill was closed in 1962 and the former gun range closed in 1997 due to safety concerns. The project site is currently vacant with brush and vegetation. Therefore, currently, there is no population associated with the project site.

Housing

County of Orange. The County's housing stock was estimated to be 1,048,329 in January 2010. This represents an increase of approximately 8.1 percent over the estimated 969,484 housing units reported in April 2000. The vacancy rate in January 2010 was estimated to be approximately 5.32 percent, with approximately 2.992 persons per household.[5] SCAG projections indicate that the number of households within the County will increase to 1,049,000 in 2020 and 1,125,000 in 2035.[6]

City of Huntington Beach. The City's housing stock was estimated to be 78,005 in January 2010. This represents an increase of approximately 3.1 percent over the estimated 75,679 housing units reported in April 2000. The vacancy rate in January 2010 was estimated to be approximately 4.71

[2] Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, http://www.scag.ca.gov/forecast/index.htm, accessed December 19, 2012.
[3] State of California, Department of Finance, *E-4 Population Estimates for Cities, Counties, and the State, 2001-2010, with 2000 & 2010 Census Counts*. Sacramento, California, November 2012.
[4] Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, http://www.scag.ca.gov/forecast/index.htm, accessed December 19, 2012.
[5] State of California, Department of Finance, E-8 *Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010*. Sacramento, California, November 2012.
[6] Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, http://www.scag.ca.gov/forecast/index.htm, accessed December 19, 2012.

percent, with 2.546 persons per household.[7] According to SCAG projections, the number of housing units in the City is expected to be 75,800 in 2020 and 79,200 in 2035.[8]

Table 6-2, *Housing Estimates*, provides a summary of both 2000 and 2010 housing estimates for Orange County and the City of Huntington Beach.

Table 6-2
Housing Estimates

Year	Orange County	City of Huntington Beach
Housing		
2000	969,484	75,679
2010	1,048,329	78,005
Change	8.1%	3.1%

Source: State of California, Department of Finance, E-8 *Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010*. Sacramento, California, November 2012.

Project Site. As stated above, the site is currently vacant, and no housing units exist on-site.

Employment

County of Orange. According to the California Employment Development Department, the civilian labor force within Orange County totaled approximately 1,608,000 as of September 2010. An estimated 9.6 percent of the County's workforce (154,000 persons) was unemployed.[9] SCAG projections indicate that the number of employees within the County will be 1,626,000 in 2020 and 1,779,000 in 2035.[10]

City of Huntington Beach. According to the California Employment Development Department, the civilian labor force within the City of Huntington Beach totaled approximately 121,900 persons as of September 2010. An estimated 7.8 percent of the City's workforce (9,600 persons) was unemployed.[11] SCAG projections indicate that the number of employees within the City will be 80,100 in 2020 and 80,600 in 2035.[12]

Project Site. As stated above, the project site is currently vacant and does not generate employment.

[7] State of California, Department of Finance, E-8 *Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010*. Sacramento, California, November 2012.
[8] Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, http://www.scag.ca.gov/forecast/index.htm, accessed December 19, 2012.
[9] *Labor Force Data for Sub-County Areas*, with March 2008 Benchmark, California Employment Development Department, October 22, 2010.
[10] Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, http://www.scag.ca.gov/forecast/index.htm, accessed December 19, 2012.
[11] *Labor Force Data for Sub-County Areas*, with March 2008 Benchmark, California Employment Development Department, October 22, 2010.
[12] Southern California Association of Governments, *Adopted 2012 Integrated Growth Forecast*, http://www.scag.ca.gov/forecast/index.htm, accessed December 19, 2012.

IMPACT ANALYSIS

A project could induce population growth in an area either directly or indirectly. More specifically, the development of new residences or businesses could induce population growth directly, whereas the extension of roads or other infrastructure could induce population growth indirectly.

Proposed Project

The project is located within Huntington Central Park, which is located within a fully developed, urbanized area of Huntington Beach. Project implementation may include a number of different recreational uses, such as a children's playground/park area, dog park, basketball courts, tennis courts, skate park, a snack bar/restaurant, and/or a picnic area, among others; refer to Section 3.0, *Project Description*.

Based on the factors discussed below, project implementation would not result in significant growth-inducing impacts:

- *Removal of an Impediment to Growth*. The project area is fully developed with the Huntington Central Park. Transportation and infrastructure exist to serve the range of recreational and other uses in the project vicinity. Given the built-out nature of the project area and developed infrastructure, the proposed project would not represent a removal of an impediment to growth.

- *Economic Growth*. As stated above, the project involves the reuse of the former gun range as a recreational component within Huntington Central Park. Economic growth of this nature would be consistent with the *City of Huntington Beach General Plan* (*General Plan*) designation of "Open Space-Park" (OS-P) for the project site. The *General Plan* establishes goals and policies that are intended to guide development throughout the City. Thus, the proposed project would not be considered growth inducing in this respect, as the project is consistent with the Citys' plans for economic growth at the project site. Therefore, the project would not result in significant economic growth in the area.

- *Population Growth*. The proposed project does not include housing, and would not induce growth within the project area. Project operations would involve the long-term reuse of the project site and could include uses such as children's playground/park area, dog park, basketball courts, tennis courts, and/or a skate park, among others. The proposed project may require up to approximately eight additional part-time staff members for operation of the proposed facility. As very few new employees would be generated by the project, project implementation would not result in a substantial number of people relocating to the City. Therefore, the project would not result in substantial growth-inducement impacts within the City.

- *Precedent-Setting Action*. The proposed project would not require a precedent-setting action, such as a General Plan Amendment or Zone Change. As demonstrated in Section 3.0, *Project Description*, the proposed project would be consistent with the *General Plan* designation of "Open Space-Park" (OS-P) and *Zoning Code* designation of "Open Space-Parks and Recreation" (OS-PR). Thus, the project is not considered growth-inducing in this regard.

- *Development or Encroachment of Open Space*. The project site has been previously disturbed and is surrounded by urbanized uses. As previously stated, the proposed recreational use of the site is consistent with the *General Plan* and *Zoning Code* designations of the site as "Open Space-Park" and "Open Space-Recreation", respectively. Therefore, the proposed project would not be growth-inducing with respect to development or encroachment into an isolated or adjacent area of open space.

Overall, project implementation would not be considered growth inducing, inasmuch as it would not foster significant unanticipated economic expansion and growth opportunities. The project would not remove an existing impediment to growth and would not develop or encroach into an isolated or adjacent area of open space. The proposed project would not foster significant unanticipated population growth in the project area, as described above. Development within the project area would not require substantial development of unplanned and unforeseen support uses and services.

In addition to inducing growth, a project may create a significant environmental impact if it would displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere and/or displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. Implementation of the proposed project would not displace any existing housing or persons, as the project site is currently undeveloped and the site of a former gun range. Therefore, the project would not result in an impact with regard to the displacement of persons, housing, and businesses.

6.3 ENERGY CONSERVATION

Public Resources Code Section 21100(b)(3) and *CEQA Guidelines* Appendix F requires a description (where relevant) of the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, the California State Legislature adopted Assembly Bill 1575 (AB 1575) in response to the oil crisis of the 1970s. Appendix F of the *CEQA Guidelines* provides guidance for assessing potential impacts that a project could have on energy supplies, focusing on the goal of conserving energy by ensuring that projects use energy wisely and efficiently. Because Appendix F does not include specific significance criteria, this threshold is based the goal of Appendix F. Therefore, an energy impact is considered significant if the proposed project would:

- Develop land uses and patterns that cause wasteful, inefficient, and unnecessary consumption of energy or construct new or retrofitted buildings that would have excessive energy requirements for daily operation.

6.3.1 PROJECT ENERGY CONSUMPTION

SHORT-TERM CONSTRUCTION

In 1994, the U.S. Environmental Protection Agency (EPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NO_X emissions from these engines by 30 percent. The EPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NO_X and 40 percent for particulate matter from Tier 1 emission levels. In 2004, the EPA issued the Clean Air Non-road Diesel Rule.

This rule will decrease emissions from off-road diesel engines by more than 90 percent, and will be fully phased in by 2014.

The project proposes the remediation and reuse of the project site with construction of a recreational element of Huntington Central Park. Construction activities would occur during site remediation as well as building construction for long-term reuse of the site. Remediation is anticipated to occur over three months, while project construction is expected to occur over approximately six months. Construction Year 1 would involve remediation activities, while construction Years 2 and 3 would include project construction activities. Table 6-3, *Construction Fuel Consumption*, provides an estimate of construction fuel consumption based on information provided by the CalEEMod air quality computer model; refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*.

As indicated in Table 6-3, remediation would consume a total of approximately 9,772.16 gallons of fuel, while project construction would consume a total amount of approximately 15,453.12 gallons of fuel, for a total of 25,225.28 gallons of fuel consumed. Mitigation Measures AQ-1 and AQ-2 would implement dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc. Additionally, Mitigation Measures AQ-3 would require construction equipment to be maintained in proper condition. Mitigation Measure AQ-4 would require construction equipment to meet the latest emissions standards and utilize the cleanest available engines. Mitigation Measure AQ-5 includes SCAQMD recommended measures to help reduce emissions from heavy duty trucks during hauling activities related to soil remediation and demolition. It is noted that the fuel consumption quantities in Table 6-3 do not account for the implementation of construction air quality mitigation measures. Therefore, with implementation of mitigation, fuel consumption would be reduced. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

LONG TERM OPERATIONS

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

Table 6-3
Construction Fuel Consumption

Equipment	Quantity	Horsepower	Load Factor	Fuel Consumption Rate[1] (gallons per hour)	Duration[2] (total hours)	Total Fuel Consumption[3,4] (gallons)
Remediation						
Rubber Tired Dozers	2	358	0.40	5.73	120	1,374.72
Tractors/Loaders/Backhoes	2	75	0.37	1.11	120	266.40
Concrete/Industrial Saws	1	81	0.73	2.37	160	378.43
Excavators	3	157	0.38	2.39	160	1,145.47
Rubber Tired Dozers	2	358	0.40	5.73	160	1,832.96
Excavators	1	157	0.38	2.39	240	572.74
Graders	1	162	0.41	2.66	240	637.63
Off-Highway Trucks	1	381	0.38	5.79	240	1,389.89
Rubber Tired Dozers	1	358	0.40	5.73	240	1,374.72
Tractors/Loaders/Backhoes	3	75	0.37	1.11	240	799.20
					Remediation Total[4]	***9,772.16***
Project Construction						
Concrete/Industrial Saws	1	81	0.73	2.37	48	113.53
Excavators	3	157	0.38	2.39	48	343.64
Rubber Tired Dozers	2	358	0.40	5.73	48	549.89
Excavators	1	157	0.38	2.39	280	668.19
Graders	1	162	0.41	2.66	280	743.90
Off-Highway Trucks	1	381	0.38	5.79	280	1,621.54
Rubber Tired Dozers	1	358	0.40	5.73	280	1,603.84
Tractors/Loaders/Backhoes	3	75	0.37	1.11	280	932.40
Cranes	1	208	0.29	2.41	567	1,368.06
Forklifts	3	149	0.20	1.19	648	2,317.25
Generator Sets	1	84	0.74	2.49	648	1,611.19
Tractors/Loaders/Backhoes	3	75	0.37	1.11	567	1,888.11
Welders	1	46	0.45	0.83	648	536.54
Cement and Mortar Mixers	2	9	0.56	0.20	114	45.96
Pavers	1	89	0.42	1.50	152	227.27
Paving Equipment	2	82	0.36	1.18	114	269.22
Rollers	2	84	0.38	1.28	114	291.11
Tractors/Loaders/Backhoes	1	75	0.37	1.11	152	168.72
Air Compressors	1	78	0.48	1.50	102	152.76
					Project Construction Total[4]	***15,453.12***
					Remediation + Project Construction Total[4]	***25,225.28***

Notes:
1. Derived using the following equation:
   Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor
   Where:
   Fuel Consumption Factor for a diesel engine is 0.04 gallons per horsepower per hour (gal/hp/hr) and a gasoline engine is 0.06 gal/hp/hr.
2. Total hours of duration derived from CalEEMod modeling results; refer to Appendix 13.5, *Air Quality and Greenhouse Gas Emissions Data*.
3. Total Fuel Consumption calculated using the following equation:
   Total Fuel Consumption = Duration in Hours x Fuel Consumption Rate
4. Values may be slightly off due to rounding.

Source: Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for CalEEMod assumptions used in this analysis.

Trip generation rates provided in Appendix 13.9, *Traffic Analysis*, and the daily vehicle miles traveled (VMT) provided in Appendix 13.5, *Air Quality and Greenhouse Gas Data*, were used to estimate vehicle fuel consumption associated with the proposed project. Table 6-4, *Project Operational Fuel Consumption*, provides an estimate of the daily fuel consumed by vehicles traveling to and from the proposed project site. As indicated in Table 6-4, operation of the proposed project is estimated to consume approximately 175.57 gallons of fuel daily. The project would involve operations typical of recreational uses, requiring passenger vehicle trips for park visitors. However, the project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. Additionally, the proximity of the project site to an existing Orange County Transportation Authority (OCTA) bus stop along Goldenwest Street (immediately south of the Huntington Central Park Sports Complex entrance) would result in reduced fuel consumption. Fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar residential developments in the region.

Table 6-4
Project Operational Fuel Consumption

Vehicle Type	Percent of Vehicle Trips[1]	Daily Trips[2]	Daily Vehicle Miles Traveled[3]	Average Fuel Economy (miles per gallon)[4]	Total Daily Fuel Consumption (gallons)[5]
Passenger Cars	82	487	2,734	21.6	126.57
Light/Medium Trucks	14	83	467	17.2	27.14
Heavy Trucks/Other	4	24	133	6.1	21.86
TOTAL[6]	***100***	***594[7]***	***3,334[8]***	***--***	***175.57***

Notes:
1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.
2. Daily Trips calculated by multiplying the total daily trips by percent vehicle trips (i.e., Daily Trips x percent of Vehicle Trips).
3. Daily Vehicle Miles Traveled (VMT) calculated by multiplying percent vehicle trips by total VMT (i.e., VMT x percent of Vehicle Trips).
4. Average fuel economy derived from the Department of Transportation.
5. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
6. Values may be slightly off due to rounding.
7. Based upon data within the *Gun Range Remediation and Reuse Project Traffic Analysis*, prepared by Stantec, dated March 2013; refer to Appendix 13.9, *Traffic Analysis*.
8. Total VMT are the reduced VMT (from project design features) obtained from the CalEEMod model.

Source: Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for CalEEMod assumptions used in this analysis.

Other Non-Motorized Transportation Options

The project vicinity is currently served by bus transit lines operated by OCTA (Line 25). The nearest transit stop to the project site is located at the entrance of Huntington Central Park along Goldenwest Street, approximately 750 feet west of the project site. The proximity of the project site to existing transit would reduce the number of trips to and from the project site. The proposed project would not result in the inefficient, wasteful, or unnecessary consumption of transportation energy.

Building Energy Demand

The proposed project would be expected to demand negligible amounts of electricity and natural gas due to the nature of the proposed recreational uses. Minimal lighting would be required for security purposes, which would be provided by Southern California Edison (SCE). Any land use that would demand enormous amounts of electricity could have significant impacts on the electrical network. As the project involves the development of recreational uses, the energy demand would be limited. The proposed project would not demand a significant amount of electricity. Therefore, it is anticipated that SCE could adequately supply the proposed project. SCE, the *General Plan*, the *City of Huntington Beach Energy Action Plan*, and the *Sustainability Report* have established policies and measures to conserve and reduce the quantity of electricity consumed within the City. Policies include minimizing electrical consumption through site design and use of efficient systems, reviewing electrical conservation programs, and installing energy-efficient appliances and equipment.

The project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar residential subdivisions within the region.

Energy Efficiency Measures

Title 24, California's Energy Efficiency Standards for Residential and Non-residential Buildings, was established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. In 2010, the CEC updated Title 24 standards with more stringent requirements. The 2010 Standards are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the Standards on building alterations. For example, requirements for cool roofs, lighting, and air distribution ducts are expected to save additional electricity. These savings are cumulative, doubling as years go by.

Additionally, implementation of the project's proposed water-efficient irrigation systems would further reduce energy consumption. The project would adhere to all Federal, State, and local requirements for energy efficiency, including applicable Title 24 standards. The proposed project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.

7.0 Alternatives to the Proposed Project

7.0 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires that an EIR include an analysis of a range of project alternatives that could feasibly attain most of the basic project objectives, while avoiding or substantially lessening any of the significant effects identified for the proposed project. The Lead Agency must disclose its reasoning for selecting each alternative. The Lead Agency must also identify any alternatives that were considered, but rejected as infeasible during the scoping process, and disclose the reasons for the exclusion. The range of alternatives is governed by a "rule of reason", which requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. Specifically, Section 15126.6(a) of the *CEQA Guidelines* requires that:

> *"An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selection of a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."*

Section 15126.6(f)(1) of the *CEQA Guidelines* provides the following information regarding the "feasibility" of a project alternative:

> *"Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives."*

Within every EIR, the *CEQA Guidelines* require that a "No Project" Alternative is analyzed. The "No Project" Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. In addition, the identification of an "Environmentally Superior" Alternative is required. The "No Project" Alternative may be the "Environmentally Superior" Alternative to the proposed project based on the minimization or avoidance of physical environmental impacts. However, the "No Project" Alternative must also achieve most of the basic objectives of the projects in order to be considered the "Environmentally Superior" Alternative. Thus, the *CEQA Guidelines* require that if the "Environmentally Superior" Alternative is the "No Project" Alternative, the EIR shall identify a superior alternative from the remaining alternatives analyzed.

In order to provide background regarding the selection or rejection of a project alternative, the discussion below provides a summary of project objectives, in addition to a description of the significant and unavoidable impacts found to occur upon project implementation. An explanation

behind each selected project alternative is provided, in addition to a discussion of alternatives that were considered during the scoping process but not selected for further analysis.

Throughout the following analysis, impacts of the alternatives are analyzed for each of the issue areas examined in Section 5.0 of this EIR. In this manner, each alternative can be compared to the proposed project on an issue-by-issue basis. Table 7-2, *Comparison of Alternatives*, which is provided at the end of this Section, provides an overview of the alternatives analyzed and a comparison of each alternative's impact in relation to the proposed project.

7.1 SUMMARY OF PROJECT OBJECTIVES

As stated above, an EIR must only discuss in detail an alternative that is capable of feasibly attaining most of the basic project objectives, while at the same time avoiding or substantially lessening any of the significant effects associated with the proposed project. Thus, a summary of project objectives is provided below:

1. Remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use, in order to protect the health and safety of those in the surrounding community.

2. Provide residents within the City of Huntington Beach with open space/recreational opportunities through the provision of long-term park facilities after site remediation is complete.

7.2 SUMMARY OF SIGNIFICANT IMPACTS

An EIR must only discuss in detail an alternative that is able to substantially lessen one or more of the significant (unavoidable) impacts that would occur upon project implementation. Only those impacts found significant and unavoidable are relevant in making the final determination of whether an alternative is environmentally superior or inferior to the proposed project. As such, a description of the proposed project's significant impacts is provided below. This information is based on the analysis provided within Section 5.0, *Environmental Analysis* of this EIR.

- Air Quality
  - Short-Term (Construction [Remediation]) Air Emissions; and
  - Short-Term (Construction [Remediation]) Cumulative Air Emissions.

As noted above, the only significant unavoidable impacts identified for the project are related to short-term remediation air quality. As noted in Section 5.3, *Air Quality*, this significant impact is due almost entirely to the use of haul trucks. As such, the focus of this analysis is on alternatives that reduce the amount of exported materials and/or haul trips to and from the site.

7.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR ADDITIONAL ANALYSIS

In determining an appropriate range of alternatives to be evaluated in the EIR, three possible alternatives were considered but not carried forward for additional analysis, since they could not accomplish most of the basic objectives of the project or were considered infeasible. These development scenarios include the following:

"ALTERNATIVE SITE" ALTERNATIVE

An "Alternative Site" Alternative for this project would not be applicable as it would directly conflict with the project objective to remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use, in order to protect the health and safety of those in the surrounding community. The selection of an alternative site would conflict with the primary purpose of the project, and therefore is not under consideration.

"ALTERNATIVE USE" ALTERNATIVE

An "Alternative Use" Alternative (e.g., long-term reuse of the site as a commercial, industrial, or residential use) is not being considered by the City as it would directly conflict with the project objective to provide residents within the City of Huntington Beach with open space/recreational opportunities through the provision of long-term park facilities. In addition, this alternative would still require remediation of the project site prior to implementation of a long-term reuse, and thus a significant unavoidable air quality impact would remain.

"ALTERNATIVE DISPOSAL SITE" ALTERNATIVE

The proposed project assumes that lead-contaminated materials exported from the site during remediation would be transported to Buttonwillow Landfill in Buttonwillow, California. Buttonwillow Landfill is located approximately 163 miles from the project site. An "Alternative Disposal Site" Alternative would consist of a disposal site that would be closer to the project site. This would reduce the length of truck haul trips, and potentially reduce the significant unavoidable air quality impact identified for the project.

However, there are only three fully permitted Class I commercial hazardous waste landfills disposal facilities that exist in California, which include Buttonwillow Landfill, Kettleman Hills Landfill, and Westmorland Landfill.[1] The Kettleman Hills Landfill is located in Kettleman City, approximately 210 miles from the project site. The Westmorland Landfill is located in Westmorland, approximately 190 miles from the project site. As such, the selection of an alternative disposal site (i.e., either Kettleman Hills Landfill or Westmorland Landfill) would result in an increase in distance that haul trucks would need to travel, exacerbating the significant air quality impact identified for the project. As such, an "Alternative Disposal Site" Alternative is not under consideration by the City.

[1] Department of Toxic Substances Control website, http://dtsc.ca.gov/upload/TitleVIAnnouncement.pdf, accessed February 22, 2013.

7.4 "NO PROJECT" ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

Pursuant to *CEQA Guidelines* Section 15126.6(e)(2), the No Project Alternative must be analyzed within the EIR. The No Project Alternative should discuss what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure and community services. In certain instances, the No Project Alternative means "no build" wherein the existing environmental setting is maintained. Thus, this Alternative assumes that no remediation or reuse of the site would occur, and that the site would remain in its existing condition as a vacant former gun range facility.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Hazards and Hazardous Materials

The No Project Alternative would leave the project site in its current condition with no remedial treatment actions. The site would continue to represent a threat to human health and safety due to existing lead contamination on the property. It is expected that further deterioration of the site would occur as underlying landfill materials continue to settle and decompose. Thus, the No Project Alternative is considered environmentally inferior to the proposed project.

Geology and Soils

Under the No Project Alternative, the site would remain in its current condition, and no remediation or building activities would occur. Since no long-term reuse of the site would be implemented, the site would remain vacant and no human activity would occur. Since no improvements or human activity would occur on-site, there is no potential for people or structures to be exposed to geologic hazards such as seismicity, liquefaction, or unstable soils), and no mitigation would be required. Therefore, the No Project Alternative would be considered environmentally superior to the proposed project.

Air Quality

The No Project Alternative would leave the site in its existing condition, and no remediation or construction activities would occur. No heavy equipment would be required, no construction workers would travel to the site, and no excavation or truck hauling trips would occur. As such, no short-term remediation/construction emissions would be generated under this Alternative. In addition, the No Project Alternative would not result in any long-term operational pollutant emissions since the site would remain vacant, and no reuse would occur. Thus, this Alternative would result in decreased air quality impacts in comparison to the proposed project, and the significant unavoidable remediation-related and cumulative air quality impacts identified for the proposed project would not occur. The No Project Alternative would be considered environmentally superior to the proposed project.

Greenhouse Gas Emissions

As noted above, the No Project Alternative would leave the site in its existing condition, and no remediation or construction activities would occur. No heavy equipment would be required, no construction workers would travel to the site, and no excavation or truck hauling trips would occur. As such, no short-term remediation/construction greenhouse gas (GHG) emissions would be generated under this Alternative. In addition, the No Project Alternative would not result in any long-term operational pollutant emissions since the site would remain vacant, and no reuse would occur. Thus, this Alternative would result in decreased GHG emissions in comparison to the proposed project. The No Project Alternative would be considered environmentally superior to the proposed project.

Noise

The No Project Alternative would not require remediation or construction activities. Therefore, no noise-generating construction equipment or haul trucks would be required. Additionally, no long-term mobile or stationary noise sources from project operations would result, as no development would occur at the project site. Thus, the No Project Alternative would not result in any new noise impacts. The No Project Alternative would be considered environmentally superior in this regard.

Biological Resources

Under the No Project Alternative, the project site would not be disturbed by remediation or construction activities, and no long-term use would be developed. Therefore, as no disturbance would occur, no impacts to biological resources would occur and no mitigation would be required. This Alternative would be considered environmentally superior to the proposed project.

Utilities

As noted above, the No Project Alternative would leave the site in its existing condition. No short-term demand for utilities would occur since no remediation or construction activities would be required. In addition, the No Project Alternative would not result in any utility demand under long-term operations since the site would remain vacant, and no reuse would occur. Thus, this Alternative would result in decreased utility impacts in comparison to the proposed project, and would be considered environmentally superior to the proposed project.

Traffic and Circulation

The No Project Alternative would not result in any short-term traffic impacts, as no construction workers would be traveling to the project site and no haul trucks would be required. Additionally, as no long-term use would be developed at the site, there would be no associated vehicle trips from on-site employees or visitors. Thus, the No Project Alternative would result in reduced traffic and circulation impacts in comparison to the proposed project, and no mitigation would be required. The No Project Alternative would be considered environmentally superior in this regard.

ABILITY TO MEET PROJECT OBJECTIVES

The No Project Alternative would eliminate the significant and unavoidable air quality effects and would generally result in a decrease in impacts in comparison to the proposed project. However, this Alternative would not accomplish any of the stated project objectives. Since no remediation of on-site contamination would occur, this Alternative would not achieve the project objective to remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use in order to protect the health and safety of those in the surrounding community. In addition, since the site would remain vacant and no recreational reuse would occur, this Alternative would not accomplish the objective to provide residents within the City with open space/recreational opportunities through the provision of long-term park facilities after site remediation is complete.

7.5 "LIMITED EXCAVATION" ALTERNATIVE

DESCRIPTION OF ALTERNATIVE

As noted in Section 5.1, *Hazards and Hazardous Materials*, the *Revised Remedial Action Plan and Human Health Risk Assessment* (*Revised RAP*) analyzed a total of three remedial options, which included the proposed project, a No Action scenario, and a remedial option involving limited excavation and clean fill capping. This final remedial scenario involving limited excavation and clean fill capping ("Limited Excavation" Alternative) is analyzed as it would result in a decrease in materials exported from the site.

The Limited Excavation Alternative would involve a reduction in the amount of contaminated soil excavated and removed from the project site in comparison to the proposed project. The Limited Excavation Alternative would involve removal of soil in the Soil Berm area of the project site to a depth of five feet (versus the maximum 12 feet associated with the proposed project). The five feet of removed soil would be replaced with five feet of compacted fill for protection of the underlying lead-containing soil. However, an engineered cap may continue to shift and would be required to be maintained over time due to the nature of the uncompacted landfill materials underlying the project site. For the purposes of this analysis, the Limited Excavation Alternative would consist of a 25 percent reduction in excavated and hauled contaminated soil as compared to the proposed project.

Under the Limited Excavation Alternative, all aspects of the long-term reuse of the project site would remain identical to the proposed project.

REASONING FOR SELECTING THE ALTERNATIVE

As noted in Section 5.3, *Air Quality*, significant unavoidable impacts related to the project for air quality are due almost entirely to the use of haul trucks. The Limited Excavation Alternative has been selected for analysis due to its ability to reduce the amount of soil excavated and hauled from the project site. This reduction in soil excavation and hauling could lessen the significant impacts identified for the proposed project related to air quality (short-term construction [remediation] and cumulative). A detailed comparison of impacts between the Limited Excavation Alternative and the proposed project is provided below.

IMPACT COMPARISON TO THE PROPOSED PROJECT

Hazards and Hazardous Materials

As noted above, the Limited Excavation Alternative would involve removal of soil in the Soil Berm area of the project site to a depth of five feet (versus the maximum 12 feet associated with the proposed project). The five feet of removed soil would be replaced with five feet of compacted fill for protection of the underlying lead-containing soil. However, an engineered cap may continue to shift and would be required to be maintained over time due to the nature of the uncompacted landfill materials underlying the project site. While this Alternative would remediate the site to meet regulatory thresholds over the short-term, the ability of this Alternative to maintain risks to human health and safety may be compromised if settlement of underlying landfill materials occurs. Substantial settlement of the existing gun range has occurred since closure of the landfill, which ultimately resulted in closure of the facility in 1997 due to safety concerns. As such, since this remedial option may result in long-term risks to human health and safety, the Limited Excavation Alternative is considered environmentally inferior to the proposed project.

Geology and Soils

The Limited Excavation Alternative would result in the same range of long-term recreational uses as the proposed project. Due to the project's location, the project would still be subject to ground shaking; however, existing requirements of the 2010 California Building Code (2010 CBC) would reduce these impacts. Limited Excavation Alternative compliance with the National Pollution Discharge Elimination System (NPDES) program and the preparation of a Storm Water Pollution Prevention Plan (SWPPP) would ensure soil erosion impacts are less than significant.

Both the Limited Excavation Alternative and the proposed project would occur within an area prone to liquefaction and over an existing landfill that is subject to substantial settlement. Thus, compliance with the 2010 CBC and Mitigation Measure GEO-1 would be required to reduce these impacts to less than significant levels. Therefore, this Alternative would be considered neither environmentally superior nor inferior to the proposed project.

Air Quality

The Limited Excavation Alternative would require approximately 25 percent less excavated soil as compared to the proposed project. Therefore, the associated air quality emissions related to excavation and soil hauling during remediation would be proportionately reduced. The remaining phases (site preparation and demolition) associated with site remediation would remain similar to the proposed project. Table 7-1, *Short-Term (Year 1 Remediation) Emissions – Limited Excavation Alternative*, depicts the remediation emissions that would occur with implementation of the Limited Excavation Alternative.

As shown in Table 7-1, implementation of the Limited Excavation Alternative would result in NO_X and PM_{10} emissions in exceedance of South Coast Air Quality Management District (SCAQMD) significance thresholds, similar to the proposed project. Therefore, the Limited Excavation Alternative would also be required to implement Mitigation Measures AQ-1 through AQ-5. However, impacts would remain significant and unavoidable.

Table 7-1
Short-Term (Year 1 Remediation) Emissions – Limited Excavation Alternative

Emissions Source	Emissions (pounds per day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Unmitigated						
Site Preparation						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	4.05	32.33	18.72	0.03	13.68	8.14
Demolition						
Soil/Material Hauling Emissions	0.84	9.38	4.37	0.02	39.16	0.4
Non-Soil/Material Hauling Emissions	5.99	46.47	29.7	0.05	3.62	2.31
Grading/Soil Removal						
Soil/Material Hauling Emissions	15.38	172.46	80.38	0.29	275.33	7.34
Non-Soil/Material Hauling Emissions	3.92	29.52	18.44	0.04	6.35	3.98
Highest Maximum Daily Emissions (Unmitigated)[2]	***19.31***	***201.98***	***98.82***	***0.33***	***281.67***	***11.31***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded?	***No***	***Yes***	***No***	***No***	***Yes***	***No***
Mitigated[3]						
Site Preparation						
Soil/Material Hauling Emissions	0.00	0.00	0.00	0.00	0.00	0.00
Non-Soil/Material Hauling Emissions	2.56	16.12	17.29	0.03	5.64	3.51
Demolition						
Soil/Material Hauling Emissions	0.84	9.38	4.37	0.02	39.16	0.4
Non-Soil/Material Hauling Emissions	3.88	24.54	29.48	0.05	2.93	1.77
Grading/Soil Removal						
Soil/Material Hauling Emissions	15.38	172.46	80.38	0.29	275.33	7.34
Non-Soil/Material Hauling Emissions	2.81	17.60	20.88	0.04	3.19	2.20
Highest Maximum Daily Emissions (Mitigated)[2]	***18.20***	***190.07***	***101.26***	***0.33***	***278.51***	***9.53***
SCAQMD Significance Thresholds	75	100	500	150	150	55
Thresholds Exceeded After Mitigation?	***No***	***Yes***	***No***	***No***	***Yes***	***No***

Notes:
1. Emissions calculated using the CalEEMod model. Soil/Material Hauling Emissions (emissions from trucks hauling soil and demolished material) are presented separately from Non-Soil/Material Hauling Emissions (emissions from worker trips, vendor trips, fugitive dust, and off-road equipment) in order to show that the majority of emissions are related to hauling.
2. For informational purposes this table presents the maximum daily emissions per phase (i.e., site preparation, demolition, and grading/soil removal). The highest maximum daily emissions represent the emissions occurring on the worst-case construction day throughout the given construction year; these are the emissions compared to the SCAQMD thresholds. Therefore, if the phases do not overlap, the highest daily emissions are not summed.
3. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD (Rule 403). The mitigation includes the following: replace ground cover on disturbed areas quickly, water exposed surfaces three times daily, and proper loading/unloading of mobile and other construction equipment. Mitigation also includes the use of cleaner engines in construction equipment for the reduction of NO_X (Mitigation Measures AQ-1 and AQ-4).

Refer to Appendix 13.5, *Air Quality and Greenhouse Gas Data*, for assumptions used in this analysis.

Following remediation activities, project construction under the Limited Excavation Alternative would remain similar to the proposed project. Thus, Mitigation Measure AQ-1 would be required for project construction to ensure standard SCAQMD fugitive dust control measures are implemented. Project construction activities would be less than significant under the Limited Excavation Alternative, similar to the proposed project.

Since long-term reuse of the site under this Alternative would be identical to the proposed project, operational impacts would be the same.

Although significant and unavoidable remediation impacts would remain under this Alternative, the quantity of emissions during the remediation phase would be reduced. As such, the Limited Excavation Alternative would be considered environmentally superior to the proposed project.

Greenhouse Gas Emissions

Under the Limited Excavation Alternative, the long-term reuse of the project site as a recreational use would remain the same as the proposed project. Therefore, the nominal GHG emissions associated with project operations would remain at approximately 550 metric tons of CO_2 equivalents ($MTCO_2eq$). However, as the remediation phase associated with Limited Excavation would require approximately 25 percent less excavation than the proposed project, GHG emissions associated with the excavation phase of remediation would be proportionately reduced. The total resulting remediation-related GHG emissions under Limited Excavation would be approximately 560 $MTCO_2eq$ (19 $MTCO_2eq/yr$ amortized over the assumed project lifetime of 30 years[2]), as compared to the 717 $MTCO_2eq$ (24 $MTCO_2eq/yr$ amortized) that would occur with implementation of the proposed Remediation Option 2. Therefore, the Limited Excavation Alternative would be considered environmentally superior to the proposed project, due to the reduced remediation activities and associated GHG emissions.

Noise

Compared to the proposed project, the remediation and construction process associated with the Limited Excavation Alternative would be similar, although reduced during remediation due to the decrease in amount of excavated soil. The reduction in remedial excavation activities would require less noise-generating construction equipment and haul trucks, which would in turn reduce short-term construction noise as compared to the proposed project. Therefore, similar to the proposed project, noise impacts due to the construction process would be less than significant.

Implementation of the Limited Excavation Alternative would result in the same long-term operations (recreational uses) as the proposed project. Therefore, long-term noise impacts associated with Limited Excavation Alternative would be less than significant, similar to the proposed project.

Since noise impacts associated with the Limited Excavation Alternative would be reduced during the remediation phase in comparison to the proposed project, this Alternative is considered environmentally superior to the proposed project.

Biological Resources

Under the Limited Excavation Alternative, the project site would be developed with a similar range of recreational uses as the proposed project. Proposed project construction activities, the area of site disturbance, and the long-term reuse of the project site would be the same as the proposed project. Therefore, Limited Excavation Alternative would also be required to implement Mitigation

[2] The project lifetime is based on the standard 30 year assumption of the South Coast Air Quality Management District (http://www.aqmd.gov/hb/2008/December/081231a.htm).

Measures BIO-1 though BIO-5 to reduce impacts to less than significant levels. This Alternative would be considered neither environmentally superior nor inferior to the proposed project.

Utilities

The Limited Excavation Alternative would result in identical demand for water, wastewater, storm water, and solid waste utilities during long-term operations, since the long-term reuse would be identical to the proposed project.

However, the Limited Excavation Alternative would result in less excavation and hauling during the remediation phase. This may result in a slight decrease in the need for water and wastewater service during the short-term remediation phase, since remediation activities, and associated construction equipment/workers would be reduced. As such, this Alternative is considered environmentally superior to the proposed project in this regard.

Traffic and Circulation

The long-term reuse of the Limited Excavation Alternative would result in an identical recreational use as the proposed project. Therefore, long-term operational traffic impacts associated with the Limited Excavation Alternative would be the same as the proposed project, and would also require implementation of Mitigation Measure TRA-1 to reduce traffic impacts to less than significant levels.

However, impacts associated with the short-term remediation process would be reduced under this Alternative, since fewer haul trips would be required due to the reduced amount of excavation that would occur. Thus, as the Limited Excavation Alternative would reduce the hauling trips during remediation, this Alternative is considered environmentally superior to the proposed project.

ABILITY TO MEET PROJECT OBJECTIVES

The Limited Excavation Alternative would consist of an identical long-term recreational reuse as the proposed project. As such, this Alternative would accomplish the project objective to provide residents within the City of Huntington Beach with open space/recreational opportunities through the provision of long-term park facilities after site remediation is complete.

However, as noted under this Alternative's analysis of Hazards and Hazardous Materials, the Limited Excavation Alternative would implement an engineered cap over contaminated areas of the project. Due to the extensive settlement that has occurred on the site due to underlying landfill materials, instability of the site may pose a risk to the ability of the engineered cap to contain lead-contaminated soils. This Alternative may result in long-term risks to human health and safety. As such, this Alternative would not meet the project objective to remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use, in order to protect the health and safety of those in the surrounding community.

7.6 "ENVIRONMENTALLY SUPERIOR" ALTERNATIVE

The determination of an environmentally superior alternative is based on the consideration of how the alternative fulfills the project objectives and how the alternative either reduces significant, unavoidable impacts or substantially reduces the impacts to the surrounding environment. As stated above, *CEQA Guidelines* Section 15126.6(e), *"No Project" Alternative*, indicates that "if the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."

Table 7-2, *Comparison of Alternatives*, provides a breakdown of the alternatives compared to the proposed project. As seen in Table 7-2 and discussed above, the No Project Alternative would be the environmentally superior alternative, as it would eliminate the significant unavoidable air quality impacts from remediation, and would reduce impacts related to geology and soils, GHG emissions, noise, biological resources, utilities, and traffic and circulation. However, the No Project Alternative would not reduce impacts related to hazards and hazardous materials, as the site would remain contaminated by existing lead associated with the former gun range facility.

Table 7-2
Comparison of Alternatives

Sections	No Project	Limited Excavation
Hazards and Hazardous Materials	⮝	⮝
Geology and Soils	⮟	=
Air Quality	⮟	⮟
Greenhouse Gas Emissions	⮟	⮟
Noise	⮟	⮟
Biological Resources	⮟	=
Utilities	⮟	⮟
Traffic and Circulation	⮟	⮟

⮝ Indicates an impact that is greater than the proposed project (environmentally inferior).
⮟ Indicates an impact that is less than the proposed project (environmentally superior).
= Indicates an impact that is equal to the proposed project (neither environmentally superior nor inferior).

The Limited Excavation Alternative has been determined to be the environmentally superior alternative, since the No Project Alternative cannot be selected under *CEQA Guidelines* Section 15126.6(e). As previously discussed, the Limited Excavation Alternative would reduce the amount of soil excavated and hauled off-site as compared to the proposed project (although significant and unavoidable air quality impacts during remediation would remain). The Limited Excavation Alternative would result in similar impacts to the proposed project regarding geology and soils and biological resources. Due to the reduced amount of soil excavated and hauled, and the overall reduced amount of construction equipment and workers that would be required under the Limited Excavation Alternative, impacts regarding air quality, GHG emissions, noise, utilities, and traffic and circulation would be reduced as compared to the proposed project. However, the Limited Excavation Alternative would not reduce impacts related to hazards and hazardous materials, as this

Alternative would implement an engineered cap over portions of the site that may result in increased impacts over the long-term. Because the Limited Excavation Alternative would result in a general reduction in impacts in comparison to the proposed project, the Limited Excavation Alternative has been determined to be the environmentally superior alternative.

However, as noted above, neither the No Project Alternative nor the Limited Excavation Alternative would accomplish the identified project objectives. Since the No Project Alternative would leave the site in its existing state, this Alternative would not accomplish the objectives of remediating the former gun range facility nor would it achieve the objective of expanding recreational opportunities within the City. Since the Limited Excavation Alternative may result in long-term risks to human health and safety, it would not accomplish the project objective to remediate the former gun range facility of on-site contaminants resulting from over 20 years of firing range use.

8.0 Inventory of Mitigation Measures

8.0 INVENTORY OF MITIGATION MEASURES

HAZARDS AND HAZARDOUS MATERIALS

Existing Hazardous Materials

HAZ-1 Prior to issuance of any grading permit for the project, the City of Huntington Beach shall ensure that the Remediation Contractor has incorporated into its work plan all remedial recommendations associated with Alternative 2 within the *Revised Remedial Action Plan and Human Health Risk Assessment*, prepared by Waterstone Environmental Inc., dated January 2011. The *Revised Remedial Action Plan and Human Health Risk Assessment* is included as Appendix 13.3 of the EIR and is incorporated by reference into this mitigation measure.

HAZ-2 The Remediation Contractor shall prepare a site-specific Health and Safety Plan (HASP) pursuant to the provisions of the *Revised Remedial Action Plan and Human Health Risk Assessment* (prepared by Waterstone Environmental, Inc., dated January 2011) Section 7.11, *Health and Safety Plan*, for all remediation work activities. The purpose of the HASP is to describe the controls and procedures that shall be implemented to minimize incidents, injury, and health risks associated with the excavation activities to be conducted at the project site. The following shall be addressed in the HASP:

- The HASP shall incorporate the requirements specified by Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations Standards (WPA 29 CFR 1910.120 and CCR Title 8).

- Field personnel shall review the HASP prior to commencing field work. Prior to initiation of field activities each day, a tailgate safety meeting shall be conducted to identify potential physical and chemical hazards and outline measures to be taken in event of an emergency. All on-site personnel shall be required to document their attendance at the tailgate safety meeting by signing a form before work each day.

- During field activities, appropriate personal protective equipment shall be worn by all personnel within designated exclusion zones. The amount of dust present in the operator breathing zone shall be obtained in the field on a regular basis using a dust meter or equivalent as required by the HASP.

  The HASP shall be reviewed and approved by the City Engineer prior to the issuance of a grading permit.

HAZ-3 Prior to the issuance of building permits for reuse of the project site, the City shall construct a landfill gas collection and control system (GCCS) that conveys landfill gas to the existing GCCS at the Huntington Central Sports Complex. In consultation with the SCAQMD, the City shall also implement an LFG monitoring program, which shall require that any proposed structures on-site would be monitored on at least a quarterly basis, consistent with SCAQMD Rule 1150.1. The proposed GCCS shall be coordinated with the SCAQMD, OCHCA, SARWQCB, and City of Huntington Beach Fire

Department. The GCCS shall incorporate the recommendations included within the *Landfill Gas Analysis for Former Gun Range Within Central Park* prepared by SCS Engineers (dated February 4, 2009), and any additional recommendations identified by the City Engineer. The *Landfill Gas Analysis for Former Gun Range Within Central Park* is included as Appendix 13.10 of the EIR and is incorporated by reference into this Mitigation Measure.

Long-Term Operations

No mitigation measures are required.

Cumulative Impacts

Refer to Mitigation Measures HAZ-1 through HAZ-3.

GEOLOGY AND SOILS

Seismicity

No mitigation measures are required.

Liquefaction

GEO-1 Prior to issuance of a building permit, the Chief Building Official shall verify that any new structures are supported by a deep foundation system, such as driven piles or caissons. The foundation system shall be designated to withstand negative dragdown due to existing fill and to mitigate for liquefaction and lateral spreading. These foundation requirements shall be denoted on project plans for review and approval by the Chief Building Official.

Soils

No mitigation measures are required.

Cumulative Impacts

Refer to Mitigation Measure GEO-1.

AIR QUALITY

Short-Term (Construction) Air Emissions

AQ-1 Prior to issuance of any Grading Permit, the City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent

fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust;
- Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance;
- Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered twice daily, or non-toxic soil binders shall be applied;
- All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour;
- Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area;
- Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to reduce mud/dirt trackout from unpaved truck exit routes. Alternatively a wheel washer shall be used at truck exit routes;
- On-site vehicle speed shall be limited to 15 miles per hour;
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; and
- Reroute construction trucks away from congested streets or sensitive receptor areas.

AQ-2 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114 (*Spilling Loads on Highways*), with special attention to Sections 23114(b)(F), (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Prior to the issuance of grading permits, the Applicant shall demonstrate to the City of Huntington Beach City Engineer how the project operations subject to that specification during hauling activities shall comply with the provisions set forth in Sections 23114(b)(F), (e)(4).

AQ-3 Prior to issuance of any Grading Permit, the City Engineer shall confirm that the Grading Plan and specifications stipulate that, in compliance with SCAQMD Rule 403, O_3 precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City. Maintenance records shall be provided to the City by the construction contractor on a monthly basis. The City shall be responsible for ensuring that contractors comply with this measure during construction.

Contract specifications shall be included in the project construction documents which shall be reviewed and approved by the City prior to issuance of a grading permit.

AQ-4 The following measures shall be implemented during remediation to substantially reduce NO_X related emissions. They shall be included in the Grading Plan and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

- Off-road diesel equipment operators shall be required to shut down their engines rather than idle for more than five minutes, and shall ensure that all off-road equipment is compliant with the CARB in-use off-road diesel vehicle regulation and SCAQMD Rule 2449.

- Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet EPA 2007 model year NO_X emissions requirements

- The following note shall be included on all grading plans: During remediation, all internal combustion engines/construction, equipment operating on the project site shall meet EPA-Certified Tier 3 emissions standards, or higher according to the following:

  - January 1, 2012, to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

  - Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

  - A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

- The remediation and construction contractors shall maintain construction equipment engines by keeping them tuned and regularly serviced to minimize exhaust emissions.

- Use low sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.

- Utilize existing power sources (i.e., power poles) when available. This measure would minimize the use of higher polluting gas or diesel generators.

- Configure construction parking to minimize traffic interference.

- Minimize obstruction of through-traffic lanes and provide temporary traffic controls such as a flag person during all phases of construction when needed to maintain smooth traffic flow. Construction shall be planned so that lane closures on existing streets are kept to a minimum.

- Schedule construction operations affecting traffic for off-peak hours to the best extent when possible.

- Develop a traffic plan to minimize traffic flow interference from construction activities (the plan may include advance public notice of routing, use of public transportation and satellite parking areas with a shuttle service.)

- Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five minutes.

AQ-5 The following SCAQMD recommended measures shall be implemented for hauling activities related to soil remediation and demolition to substantially reduce NO_X related emissions. They shall be included in the Grading Plan and contract specifications. Contract specification language shall be reviewed by the City prior to issuance of a grading permit.

- All heavy duty trucks utilized for hauling shall meet or exceed EPA 2007 engine emission standards.

- Beginning in 2015, all heavy duty trucks utilized for hauling shall meet or exceed EPA 2010 engine emission standards.

- If the above clean truck requirements are infeasible, a phase-in schedule shall be put forth that shall feasibly achieve emission reductions as soon as possible.

- The contractor shall maintain a log of all hauling trucks entering the project site to ensure that on average, the daily truck fleet meets the selected EPA emission standards. This log shall be available for inspection by City staff at any time.

- Prohibit all vehicles and trucks from idling in excess of five minutes, both on- and off-site.

Long-Term (Operational) Air Emissions

No mitigation measures are required.

Cumulative Impacts

Refer to Mitigation Measures AQ-1 through AQ-5.

GREENHOUSE GAS EMISSIONS

Greenhouse Gas Emissions

No mitigation measures are required.

Consistency With Applicable GHG Plans, Policies, or Regulations

No mitigation measures are required.

Cumulative Impacts

No mitigation measures are required.

NOISE

Short-Term Construction Noise Impacts

No mitigation measures are required.

Construction Related Vibration Impacts

No mitigation measures are required.

Long-Term (Mobile) Noise Impacts

No mitigation measures are required.

Long-Term (Stationary) Noise Impacts

No mitigation measures are required.

Cumulative Impacts

No mitigation measures are required.

BIOLOGICAL RESOURCES

Special Status Plant and Wildlife Species

BIO-1 Prior to vegetation clearing activities on-site, the City of Huntington Beach shall conduct focused surveys for special status plant species during the appropriate blooming period (generally spring/summer) to determine the presence or absence of special status plant species. If a special status plant species is observed, its rarity and abundance shall be

evaluated by the Project Biologist. If the finding is considered significant, then additional avoidance, minimization, or mitigation measures may be required as determined appropriate by the Project Biologist.

BIO-2 Prior to the approval of landscape plans for the proposed project, the project Landscape Architect shall certify to the City of Huntington Beach Planning and Building Department that exotic plant species (any species listed in the California Invasive Plant Council [Cal-IPC] Invasive Plant Inventory or the Federal Noxious Weed List) are not included in the plant palette for the site.

BIO-3 Prior to vegetation clearing activities on-site, the City of Huntington Beach shall conduct focused surveys for the coastal California gnatcatcher to determine the presence or absence of this species on the project site. Survey protocol requires either (1) a minimum of six surveys be conducted between March 15 and June 30 or (2) a minimum of nine surveys be conducted between July 1 and March 14. If focused surveys determine that coastal California gnatcatcher is not present on the project site, then no further measures would be necessary. If focused surveys determine that the coastal California gnatcatcher is present on the project site, then the City shall implement additional avoidance, minimization, or mitigation measures as determined by the USFWS.

BIO-4 Prior to the approval of lighting plans and specifications for the proposed project, the City of Huntington Beach Planning and Building Department shall verify that night lighting shall be directed away from open space areas and shielding shall be incorporated into the final project design to minimize the increase in ambient lighting adjacent areas to the greatest extent practicable. These stipulations shall be denoted on project plans for review and approval by the Planning and Building Department.

Sensitive Natural Communities

Refer to Mitigation Measure BIO-3.

Migratory Birds

BIO-5 To the extent feasible, the City of Huntington Beach shall conduct all vegetation removal activities outside of the nesting season (typically February 15 to August 15) to avoid potential impacts to nesting birds. However, if initial vegetation removal occurs during the nesting season, all suitable habitat shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist prior to commencement of clearing. If any active nests are detected, a buffer of at least 100 feet (300 feet for raptors) shall be delineated, flagged, and avoided until the nesting cycle is complete as determined by the Project Biologist.

Cumulative Impacts

Refer to Mitigation Measures BIO-1 through BIO-5.

UTILITIES

Water Services

No mitigation measures are required.

Wastewater Services

No mitigation measures are required.

Stormwater Facilities

No mitigation measures are required.

Solid Waste

No mitigation measures are required.

Cumulative Impacts

No mitigation measures are required.

TRAFFIC AND CIRCULATION

Forecast Existing Plus Project Conditions – Local Roadways

No mitigation measures are required.

Forecast Existing Plus Project Conditions – State Highways

No mitigation measures are required.

Short-Range Year 2016 With Project Conditions – Local Roadways

No mitigation measures are required.

Short-Range Year 2016 With Project Conditions – State Highways

No mitigation measures are required.

Long-Range Year 2030 With Project Conditions – Local Roadways

TRA-1 Prior to issuance of a building permit for the proposed project, the City of Huntington Beach shall contribute its fair share to the implementation of the following potential improvements (also identified in the *Huntington Beach Circulation Element Update*) for the Beach Boulevard/Talbert Avenue intersection:

- Add second westbound left turn lane;

- Add defacto westbound right turn lane;
- Add separate northbound right turn lane;
- Add second eastbound left turn lane; and/or
- Stripe defacto eastbound right turn lane.

Long-Range Year 2030 With Project Conditions – State Highways

Refer to Mitigation Measure TRA-1.

Hazardous Design Feature/Access

No mitigation measures are required.

Conflict with Policies, Plans, or Programs

No mitigation measures are required.

Remediation and Construction Traffic

No mitigation measures are required.

Cumulative Impacts

Refer to Mitigation Measure TRA-1.

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9.0 Level of Significance After Mitigation

9.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

HAZARDS AND HAZARDOUS MATERIALS

No unavoidable significant impacts related to hazards and hazardous materials have been identified following implementation of recommended mitigation measures.

GEOLOGY AND SOILS

No unavoidable significant impacts related to geology and soils have been identified following implementation of recommended mitigation measures.

AIR QUALITY

Implementation of the proposed project would result in a significant and unavoidable impact for the following areas:

- Regional Construction Related Emissions – As shown in Table 5.3-6, activities related to construction of the project would exceed the SCAQMD daily emission threshold for regional NO_X and PM_{10} during construction Year 1 after implementation of all feasible mitigation measures. Therefore, the construction of the project would have a significant and unavoidable impact on regional air quality. Construction emissions would not exceed the SCAQMD significance threshold for ROG, SO_X, CO, and $PM_{2.5}$.

- Cumulative Short-Term Construction-Related Emissions – As stated above, construction activities would create a significant and unavoidable impact due to exceedances of SCAQMD regional thresholds for NO_X and PM_{10} during construction Year 1. Implementation of recommended mitigation measure AQ-1 through AQ-5 would reduce impact; however a significant and unavoidable impact would remain.

GREENHOUSE GAS EMISSIONS

No unavoidable significant impacts related to greenhouse gas emissions have been identified.

NOISE

No unavoidable significant impacts related to noise have been identified.

BIOLOGICAL RESOURCES

No unavoidable significant impacts related to biological resources have been identified following implementation of recommended mitigation measures.

UTILITIES

No unavoidable significant impacts related to utilities have been identified.

TRAFFIC AND CIRCULATION

No unavoidable significant impacts related to traffic and circulation have been identified following implementation of the recommended mitigation measure.

10.0 Effects Found Not To Be Significant

10.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

In the course of this evaluation, certain impacts of the project were found to be less than significant due to the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type. The effects determined not to be significant are not required to be included in primary analysis sections of the Draft EIR. In accordance with *CEQA Guidelines* Section 15128, the following section provides a brief description of potential impacts found to be less than significant.

1. AESTHETICS. ***Would the project:***

a) *Have a substantial adverse effect on a scenic vista?*

No Impact. The project site is located within an urbanized area, and is surrounded by open space, vacant land, light industrial, and residential uses. No scenic vistas exist in the project site vicinity. Thus, no impacts would occur in this regard.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. No state scenic highways exist within the vicinity of the project site. In addition, no scenic resources exist on-site. As stated above, the project represents a beneficial impact to the project area in regard to aesthetics. No impacts would occur in this regard.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Less Than Significant Impact. The proposed project would improve the aesthetic character of the site vicinity by replacing the existing dilapidated gun range structures with a recreational use. All heating units, air conditioning units, plumbing lines, ductwork, and other unsightly equipment would be screened from view. Impacts are less than significant.

d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less Than Significant Impact. Implementation of the proposed project may include nighttime lighting for certain areas of the site. Potential opportunities to reduce impacts would be implemented in order to reduce light spillover effects in accordance with the City's code requirements. Impacts would be less than significant in this regard.

2. AGRICULTURE RESOURCES. ***In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:***

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The project site is located within an urbanized setting and is occupied by a former gun range practice facility. Designated land uses within the project area do not include agricultural uses. Based upon the Farmland Mapping and Monitoring Program for the California Resources Agency, project components do not affect any agricultural resource area. Therefore, impacts to agricultural land or zoning for agricultural use would not occur.

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The proposed project is zoned as Open Space-Parks and Recreation (OS-PR) and does not conflict with existing zoning for agricultural use or a Williamson Act contract. Impacts in this regard are not expected to occur.

c) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?*

No Impact. The project proposes the remediation of a former gun range and implementation of recreational uses, and will not affect agricultural uses. Impacts in this regard are not expected to occur.

3. AIR QUALITY. *Would the project:*

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Less Than Significant Impact. The proposed project would be subject to the South Coast Air Quality Management District (SCAQMD) rules and regulations and the *2012 Air Quality Management Plan* (AQMP). Implementation of the proposed project would be consistent with the City's *General Plan* and impacts in this regard have been adequately analyzed in the *General Plan EIR* and *Central Park Master EIR*. Impacts would be less than significant in this regard.

4. BIOLOGICAL RESOURCES. *Would the project:*

a) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, costal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. An Updated Preliminary Delineation of Jurisdictional Waters (Appendix 13.7 of this EIR) was prepared to determine potential impacts to wetland features as a result of project construction. No wetland features exist on the project site. Although an earthen ditch exists along the western boundary of the project site, the Updated Preliminary Delineation determined that the ditch was not a jurisdictional feature under Federal and State regulations. No impacts would occur in this regard.

b) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. The project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impacts are anticipated in this regard.

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Less Than Significant Impact. The City's *Municipal Code* Chapter 13.50, *Regulation of Trees*, requires permits to be obtained prior to the disturbance of a tree in a public place and prior to the planting or relocation of trees in public places. The proposed project would be required to comply with any applicable regulations of the City's *Municipal Code* regarding tree preservation. Thus, impacts in this regard would be less than significant.

5. CULTURAL RESOURCES. *Would the project:*

a) *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?*

No Impact. The proposed project site was operated by the County of Orange as a landfill until 1962 when it was converted into a gun range facility used by the Huntington Beach Police Officers Association. The proposed project site currently exists as an abandoned gun range facility and is in an urbanized area. No significant historical, cultural, archaeological, paleontological, geological, or human remains have been identified. Therefore, impacts in this regard are not expected to occur.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?*

No Impact. As stated above, the project site is occupied by an abandoned gun range facility, located over a former landfill. No archaeological resources are anticipated to occur on-site, and no impacts would occur in this regard.

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

No Impact. As stated above, the project site is occupied by an abandoned gun range facility, located over a former landfill. No paleontological resources are anticipated to occur on-site, and no impacts would occur in this regard.

d) *Disturb any human remains, including those interred outside of formal cemeteries?*

No Impact. As stated above, the project site is occupied by an abandoned gun range facility, located over a former landfill. No human remains are anticipated to occur on-site, and no impacts would occur in this regard.

6. GEOLOGY AND SOILS. *Would the project:*

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

1) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*

No Impact. Several earthquake faults traverse the City of Huntington Beach, the largest of which is the Newport-Inglewood Fault. This fault has been deemed capable of producing fault rupture due to co-seismic or primary seismic activity. However, the subject site is not located within an Alquist-Priolo Special Studies Zone, as the Newport-Inglewood fault zone is located one mile south of the subject site. Because no known or mapped active seismic faults traverse the subject site, no impacts would occur in this regard.

2) *Landslides?*

No Impact. According to the City of Huntington Beach *General Plan*, potential landslide areas within the City are limited to the mesa bluffs region. The proposed project site is not in this region and is generally flat. Therefore, project implementation would not expose people or structures to potential substantial adverse effects involving landslides.

b) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

No Impact. No septic tanks or alternative waste water disposal systems are proposed. Therefore, no impacts in this regard are expected.

7. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*

a) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact. No schools are located within one-quarter mile of the subject site. Therefore, impacts to schools in this regard would not occur.

b) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. Although the site is known to be contaminated with lead and other toxic substances, the former gun range is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore no impacts are anticipated in this regard.

c) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

No Impact. Although the City of Huntington Beach is included within the *Airport Environs Land Use Plan* (*AELUP*) of Orange County, the proposed project site is located more than six miles from the Armed Forces Reserve Center in the City of Los Alamitos and over seven miles from John Wayne Airport in the City of Santa Ana. No impacts are anticipated in this regard.

d) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project are?*

Less Than Significant Impact. The project is not within the vicinity of a private airstrip and would not result in a safety hazard for people residing or working in the project area. Although a City of Huntington Beach Police Department heliport exists approximately 0.2 miles southeast of the project site, the facility does not experience high volumes of helicopter traffic since it is limited to police operations only. Thus, less than significant impacts are anticipated in this regard.

e) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

No Impact. The proposed project shall be in compliance with all City of Huntington Beach emergency response and/or emergency evacuation plans. The project site is currently accessible via an entrance located along Gothard Street. Required evacuation plans and procedures shall be incorporated into site design and the project would be in compliance with the applicable design standards. Impacts in this regard are not expected to occur.

f) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

No Impact. The project site is developed and located within a fully developed urban setting. Therefore, project implementation would not expose people or structures to a significant risk of loss, injury or death involving wildland fires.

8. HYDROLOGY AND WATER QUALITY. *Would the Project:*

a) *Violate any water quality standards or waste discharge requirements?*

Less Than Significant Impact With Mitigation. Impacts related to water quality would primarily result from erosion, siltation, and sedimentation occurring both during remediation of the gun range and grading for long-term recreation uses. However, the project would be in compliance with all Santa Ana Regional Water Quality Control Board (SARWQCB) requirements and would obtain a National Pollution Discharge Elimination System (NPDES) Municipal Permit. Typical urban water quality pollutants usually result from motor vehicle operations, oil and grease residues, fertilizer/pesticide uses, and careless material storage and handling. Use of Best Management Practices (BMPs) would ensure that all on-site surface water would be directed to existing storm drains. The proposed project would be in compliance with the County's 2003 Drainage Area Management Plan (DAMP). The DAMP satisfies the NPDES permit conditions for creating and implementing an Urban Runoff Management Program (URMP). The intent of an URMP is to reduce pollutant discharges to the maximum extent practicable (MEP) for the protection of water quality at

receiving water bodies and the support of designated beneficial uses. The DAMP contains guidance on both structural and nonstructural BMPs for meeting these goals. With implementation of the DAMP requirements, the project would be required to prepare a Water Quality Management Plan (WQMP) in accordance with the requirements of the NPDES standards.

In addition, with the incorporation of mitigation provided within the *Huntington Central Park Master Plan EIR* (refer to Measure Water-4 of Appendix 13.1, Attachment No. 5), impacts are expected to be reduced to less than significant levels.

b) *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 (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Less Than Significant Impact With Mitigation. Project implementation would not result in the depletion of groundwater supplies or interference with groundwater recharge since the project does not involve the extraction of groundwater from the site. Groundwater wells supply the majority of the City of Huntington Beach's water. Although the project would not interfere with groundwater recharge, future park use could require water use. The City would perform necessary studies to determine what measures would reduce the project's impacts to the City's water supply systems, including groundwater wells (see Measure Utilities-7 of Appendix 13.1, Attachment No. 5). Impacts in this regard are anticipated to be less than significant with adherence to the identified mitigation measure.

c) *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 which would result in substantial erosion or siltation on or off-site?*

Less Than Significant Impact With Mitigation. The site has been previously developed and is void of existing drainage courses such as rivers or streams. Although the project may incorporate impermeable surfaces for parking lots, paths, and internal roads, the project is not of the scope or nature to significantly alter the site's absorption rate. The project would be in compliance with all SARWQCB requirements and would obtain an NPDES Municipal Permit. Use of BMPs would ensure that all on-site surface water would be directed to existing storm drains, in accordance with standard drainage facility design requirements (see Measure Utilities-8 of Appendix 13.1, Attachment No. 5). Therefore, existing mitigation measures from the *Huntington Central Park Master Plan EIR* are expected to reduce impacts to less than significant levels.

d) *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 or surface runoff in a manner which would result in flooding on or off-site?*

Less Than Significant Impact. As stated above, the project site is void of drainage courses and project implementation would not substantially alter the site's absorption rate. The project would not result in the potential for on- or off-site flooding. A less than significant impact would occur in this regard.

e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less Than Significant Impact. The proposed project would not contribute to or create runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Refer to Response 8(c).

f) *Otherwise substantially degrade water quality?*

Less Than Significant Impact. The proposed project would adhere to SARWQCB and NPDES Municipal Permit requirements. Refer to Response 8(a) and Response 8(c).

g) *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?*

No Impact. The proposed project is not located within a 100-year flood hazard area nor does the project include any housing. Therefore, no impacts are anticipated in this regard.

h) *Place within a 100-year flow hazard area structures which would impede or redirect flood flows.*

No Impact. As stated above in Response 8(g), the proposed project is not located within a 100-year flood hazard. Therefore, no impacts are anticipated in this regard.

i) *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?*

No Impact. The proposed project is not located within the vicinity of a waterway retained by a levee or dam. Therefore, no impacts are anticipated in this regard.

j) *Inundation by seiche, tsunami, or mudflow?*

No Impact. Previous evaluations designate the tsunami potential for the City of Huntington Beach at very low. Of more concern are seiche waves caused by tsunamis captured and reflected within the enclosed area of an inner harbor, such as Huntington Harbour. The project site is not in the immediate vicinity of a harbor. In addition, the site vicinity is void of land features capable of producing mudflow. Therefore, the potential for inundation by seiche, tsunami or mudflow is sufficiently non-existent or remote so as not to be considered an impact.

k) *Potentially impact stormwater runoff from construction activities?*

Less Than Significant Impact. The proposed project may potentially impact stormwater runoff from short-term construction activities. However, existing Federal and State regulations (including the SARWQCB's General Construction Permit Program) would require the implementation of BMPs during construction to minimize off-site water quality impacts. Upon compliance with existing regulatory requirements, implementation would be less than significant.

l) *Potentially impact stormwater runoff from post-construction activities?*

Less Than Significant Impact With Mitigation. As stated above, the proposed project would not affect any existing drainage courses, nor would it substantially increase the site's absorption rate. Long-term operations would be subject to SARWQCB and NPDES requirements, as stated in Responses 8(a) and 8(c). The project would also be subject to the *Huntington Central Park Master Plan EIR* mitigation measures (see Measure Utilities-8 of Appendix 13.1, Attachment No. 5). Impacts would be less than significant upon compliance with existing water quality requirements and implementation of existing mitigation measures.

m) *Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?*

Less Than Significant Impact. The short-term remediation and construction process would involve the handling and potential transport of hazardous materials. In addition, remedial and construction activities would require the storage, maintenance, and refueling of mechanical equipment on-site. The potential for polluted runoff from the project site during the remediation process would be minimized through adherence to Federal, State, and local standards for the handling of hazardous materials, in addition to construction-related water quality standards imposed by the SARWQCB.

n) *Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?*

Less Than Significant Impact. As stated above, existing Federal, State, and local water quality requirements would minimize impacts to less than significant levels. Thus, the proposed project would result in less than significant impacts to beneficial uses of receiving waters.

o) *Create or contribute significant increases in the flow velocity or volume of stormwater runoff to cause environmental harm?*

Less Than Significant Impact. Project implementation would not substantially alter the site's absorption rate, nor would a substantial increase in topography occur that could increase off-site flow velocities. The project would include design features to direct stormwater runoff to the existing storm drain system. Thus, a less than significant impact would occur.

p) *Create or contribute significant increases in erosion of the project site or surrounding areas?*

Less Than Significant Impact With Mitigation. As stated above, compliance with existing water quality regulations and incorporation of mitigation provided within the *Huntington Central Park Master Plan EIR* would minimize erosion impacts to less than significant levels. Refer to Response 8(c).

9. LAND USE AND PLANNING. *Would the project:*

a) *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Less Than Significant Impact. The City of Huntington Beach General Plan land use designation for the proposed project site is Open Space–Park and is zoned OS-PR (Open Space-Parks and Recreation). Proposed uses for the project site would be consistent with the General Plan and Zoning Ordinance, as well as policies contained in the Huntington Central Park Master Plan. On-site improvements would not require a change in land use plan, policy, or regulation of an agency with jurisdiction over the project. As such, impacts in regard to land use would be less than significant.

b) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

No Impact. The proposed project would not conflict with any habitat conservation plans or natural community conservation plans, as there are no such plans applicable to the project site. Impacts in this regard are not expected to occur.

c) *Physically divide an established community?*

No Impact. The project site has been previously developed, and is surrounded by industrial, public, and open space/recreational uses. The project site is proposed to become a component of the existing Huntington Central Park. Project implementation is not of a scope or nature such that it would physically divide an established community or disrupt the physical arrangement of the City. There are no anticipated impacts.

10. MINERAL RESOURCES. ***Would the project:***

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No Impact. The project site is located within a fully developed urban setting. No classified or designated mineral deposits of statewide or regional significance are known to occur on the project site. No impacts are anticipated in this regard.

b) *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No Impact. The project site has not been delineated as an important mineral resource recovery site within the City's *General Plan*. No impacts are anticipated in this regard.

11. NOISE. ***Would the project:***

a) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact. Although the City of Huntington Beach is included within the *AELUP* of Orange County, the proposed project site is located more than six miles from the Armed Forces Reserve Center in the City of Los Alamitos and over seven miles from John Wayne Airport in the City of Santa Ana. No impacts are anticipated in this regard.

b) *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

Less Than Significant Impact. No private airstrip exists within the site vicinity. Although a City of Huntington Beach Police Department heliport exists approximately 0.2 miles southeast of the project site, the facility does not experience high volumes of helicopter traffic since it is limited to police operations only. Therefore, people residing or working in the project area would not be exposed to excessive noise levels. Impacts in this regard are expected to be less than significant.

12. POPULATION AND HOUSING. *Would the project:*

a) *Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extensions of roads or other infrastructure)?*

No Impact. The proposed project is in an urban area, and was previously developed. No homes or businesses are proposed as part of the project. All major infrastructure systems, including utilities and roads are in place. Impacts in this regard are not expected to occur.

b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

No Impact. The proposed project is not expected to induce local growth, either directly or indirectly. The project will not displace homes since the project site does not contain existing residential units. The proposed project is limited to existing areas owned by the City for the purpose of providing recreational opportunities for Huntington Beach residents. Therefore, no impacts are anticipated in this regard.

c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

No Impact. The project will not displace people since the project site does not contain existing residential units. See discussion above, Response 12(b). Impacts in this regard are not expected to occur.

13. PUBLIC SERVICES.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) *Fire protection?*

Less Than Significant Impact. The proposed project site is currently developed and has previously been served by the Huntington Beach Fire Department. The proposed project would comply with all City of Huntington Beach safety codes, emergency response and/or emergency evacuation plans, and the City's *General Plan*. Fire access roads shall be provided in compliance with City of Huntington Beach Fire Department standards. Impacts in this

regard have been previously analyzed in the *General Plan EIR* and the *Central Park Master EIR*, thus fire protection impacts are anticipated to be less than significant.

b) *Police protection?*

Less Than Significant Impact. Development of the project may result in an overall increased demand for police protection services. Police patrols within the proposed recreation area may be necessary for crime prevention and safety measures. Police responses may be necessary during site remediation and construction. However, given the small size of the site and recreational nature of proposed long-term operations, the project is not anticipated to result in a significant demand on police services. Less than significant impacts are anticipated.

c) *Schools?*

Less Than Significant Impact. The project vicinity is served by the Ocean View School District and the Huntington Beach Union High School District. The project is not expected to create a need for new or increased school services or to directly impact enrollment figures, since the project does not propose housing, nor would it create substantial long-term employment positions. Impacts would be less than significant in this regard.

d) *Parks?*

No Impact. The project site is proposed as a recreational land use, consistent with the *Huntington Central Park Master Plan*. Implementation of the project would enhance the City's park system. No impacts would occur in this regard.

e) *Other public facilities or governmental services?*

No Impact. No other adverse impacts have been identified for public services.

14. RECREATION.

a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

No Impact. The project is proposed for development as a recreational component of Huntington Central Park, consistent with existing *General Plan* and zoning designations. The project would increase the City's ability to provide recreational opportunities to its residents and represents a beneficial impact in this regard. In addition, given the expanded recreational opportunities provided by the project, no impacts would occur relative to the deterioration of existing recreational facilities.

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Less Than Significant Impact. The project itself represents a recreational expansion of the Huntington Central Park, representing a beneficial impact to the City's recreation system. However, remediation of the former gun range may have a temporary adverse physical effect

on the environment due to the potential for hazardous materials to occur on-site. These effects have been further analyzed within Draft EIR Section 5.1, *Hazards and Hazardous Materials*.

c) *Affect existing recreational opportunities?*

Less Than Significant Impact. The project represents a recreational component of Huntington Central Park and is consistent with existing *General Plan* and zoning designations. The project consists of demolishing an existing gun range and converting the site for recreational uses, positively contributing to the City's recreation system. Impacts in this regard are expected to be less than significant.

15. TRANSPORTATION/TRAFFIC: *Would the project:*

a) *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

Less Than Significant Impact. The proposed project is not anticipated to impact any congestion management program roadway or intersection and less than significant impacts are anticipated.

b) *Result in change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

No Impact. Although the City of Huntington Beach is included within the *AELUP* of Orange County, the proposed project site is located more than six miles from the Armed Forces Reserve Center in the City of Los Alamitos and over seven miles from John Wayne Airport in the City of Santa Ana. No impacts are anticipated in this regard.

c) *Result in inadequate emergency access?*

Less Than Significant Impact. The proposed project shall be in compliance with all City of Huntington Beach emergency response and/or emergency evacuation plans. The project site is currently accessible via an entrance located along Gothard Street. Required evacuation plans and procedures shall be incorporated into site design and the project would comply with applicable design standards. Pursuant to the City's code requirements, fire access roads shall be provided in accordance with Fire Department codes. Impacts in this regard are expected to be less than significant.

d) *Result in inadequate parking capacity?*

No Impact. Implementation of the proposed project may create additional demand for parking. Development of the project site would be consistent with parking requirements in the City's zoning ordinance. The City's code requirements require that on-site parking be provided for all construction workers and equipment, thereby eliminating short-term construction impacts. No impacts are expected in this regard.

e) *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?*

No Impact. As stated above, the proposed project would incorporate the goals and policies of the City's *General Plan* and *Central Park Master Plan*, and would not conflict with any other known policies. No impacts are expected in this regard.

16. UTILITIES AND SERVICE SYSTEMS. *Would the project:*

a) *Include a new or retrofitted storm water treatment control Best Management Practice (BMP), (e.g. water quality treatment basin, constructed treatment wetlands?)*

Less Than Significant Impact. The project would include BMPs as required by the SARWQCB during the NPDES permitting process. Water quality features, if determined necessary, would be incorporated into site design in consultation with the SARWQCB. Impacts would be less than significant in this regard.

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11.0 Organizations and Persons Consulted

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