# CHAPTER 7 Recirculated Portions of the Draft PEIR

## 7.1 INTRODUCTION

The Draft Program Environmental Impact Report (Draft PEIR) for the Opportunities Study was distributed to various public agencies, citizen groups, and interested individuals for a 45-day public review period, which began on February 2, 2006, and ended on March 21, 2006. The comment period was then extended to March 27, 2006. Following the close of the public comment period, the City began the process of preparing responses to all of the comments received on the Draft PEIR. In addition, the City also continued discussions with the participating landowners regarding the proposed obligations regarding the various public facilities identified in the Opportunities Study Area ("OSA") and described in the Draft PEIR, and the appropriate development densities for the OSA area. During these discussions, the City identified a new alternative for locating the public facilities. This new alternative is a combination of several of the alternatives discussed in the Draft PEIR, and therefore is referred to as the "hybrid alternative." In order to provide the public the opportunity to review and comment on this "hybrid alternative," the City decided to prepare an analysis of the "hybrid alternative" and to circulate it for review and comment. As the prior public comment period on the Draft PEIR ended in March, 2006, the City has also decided to include in this document information that updates the prior Draft PEIR with respect to changes that have occurred since that time.

CEQA Guidelines Section 15088.5 requires a Lead Agency to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review, but before the Final EIR is certified. Information can include changes in the project or environmental setting as well as additional data or other information. The City has therefore prepared this new Chapter 7 that describes the "hybrid alternative" and provides additional information on significant changes or new information that have occurred since circulation of the prior Draft PEIR. A full description of the "hybrid alternative" is contained in Section 7.4 of this Chapter.

This new Chapter 7 is being circulated for 45 days. Pursuant to CEQA Guidelines Section 15088.5 (f)(2), the City requests that you limit your comments to only the material contained in this document (new Chapter 7 of the Draft PEIR). Following the close of the comment period on this additional information, the City will publish the Final PEIR for the Opportunities Study. The Final PEIR will contain:

- The Draft PEIR, with any modifications made in response to comments;
- All of the comments received on the Draft PEIR during the 2006 public comment period and responses to those comments;
- This new Chapter which has been circulated pursuant to CEQA Guidelines Section 15088.5;
- All of the comments received on this recirculated document and responses to those comments.

This document (Chapter 7 or Recirculated Draft Program EIR) contains information on:

- Events affecting the Project and changes to the environmental setting that have occurred since the circulation of the Draft PEIR (7.1.1)
- An explanation of the status of comments received on the Draft PEIR (7.1.2)
- An explanation of the process and timeline for the recirculated Draft PEIR and Final EIR (7.1.3)
- Additional information on hydrology, schools, Great Park development in Irvine, Alton Parkway, Portola Hills, Global Climate Change, and Water Supply (7.2)
- Alternatives considered since circulation of the Draft PEIR (7.3)
- Analysis of a new hybrid alternative, Alternative 7 (7.4)

## 7.1.1 EVENTS SINCE DRAFT PEIR CIRCULATION

The Draft PEIR was circulated for public review from February 2 to March 27, 2006. A total of 145 comment letters were received during the public comment period. Responses to each comment letter will be included in the Final PEIR. The purpose of this Recirculated Draft Program EIR (RDPEIR) is primarily to circulate for public review and comment the analysis of a new alternative that has been developed by combining components from several of the alternatives that were in the Draft PEIR.

Following the public comment period on the Draft PEIR, staff analyzed the feasibility of alternatives that included new combinations of public facilities locations on the participating properties, as well as potential development of public facilities on existing County open space in the City. These alternatives were narrowed based on their ability to provide the desired level of public facilities, and the ability to meet project objectives.

The following timeline illustrates the activity on the Opportunities Study program during 2006 and 2007.

| | |
|---|---|
| January 2006 to present | Landowner negotiations regarding development agreement provisions, including public facility site acquisition and financing |
| February – March 2006 | Draft PEIR circulated for public review |
| April 2006 – July 2006 | City staff prepares responses to comments received on the DPEIR |
| July 2006-January 2007 | Landowner negotiations with the City continues |
| January 2007-June 2007 | City staff evaluates potential public facility locations and configurations in the Draft PEIR as well as several new alternatives. City staff considers additional alternatives involving potential property acquisition in response to public comments. |
| July 2007 | A hybrid alternative is developed and City Council directs staff to conduct environmental review on this alternative |
| July 2007 – December 2007 | City staff prepares and circulates a new Chapter 7 of the Draft PEIR which includes analysis of the hybrid alternative |
| July 2007 to present | City and landowner negotiations regarding the development agreement resume |

## 7.1.2 PROCESS AND TIMELINE

### Process and Timeline for the Recirculated Draft PEIR and Final PEIR

Chapter 7 is being circulated for 45 days to allow for public comment on the new information. Following the close of the comment period on the Recirculated Draft PEIR (RDPEIR), the City will prepare responses to the new comments received during the comment period. These comments and responses, along with those on the Draft PEIR, will be included in the Final PEIR.

The Final PEIR will be presented to the City's decision makers for review and certification. A schedule of hearings on the Final PEIR and proposed project will be posted on the City's website at:

http://www.city-lakeforest.com/opportunitiesstudy/about.php

### Commenting on the Recirculated Draft PEIR

Pursuant to CEQA Guidelines Section 15088.5 (f)(2), the City requests that you limit your comments to only the material contained in this document (Chapter 7 of the Draft PEIR). Interested parties may provide comments on the Recirculated Draft PEIR in written form, which must be received in the office listed below no later than **5:00 P.M. on Tuesday, February 19, 2008**. Comments should be addressed to:

Ms. Gayle Ackerman, Development Services Director
City of Lake Forest, Development Services Department
25550 Commercentre Drive
Lake Forest, CA 92630
gackerman@ci.lake-forest.ca.us
Fax: (949) 461-3512

During the 45-day public review period, the Draft PEIR and the Recirculated Draft PEIR will be available for review at the following locations:

The City's website at: http://www.city-lakeforest.com/opportunitiesstudy

City of Lake Forest
Development Services Department
25550 Commercentre Drive
Lake Forest, CA 92630
(949) 461-3400
Hours: M–TH 8 A.M.–12 P.M. and 1 P.M.–6 P.M.
Alternate F: 8 A.M.–12 P.M. and 1 P.M.–5 P.M.

El Toro Library
24672 Raymond Way
Lake Forest 92630
(949) 855-8173
Hours: M–TH 10 A.M.– 9 P.M.
F & SA 10 A.M.– 5 P.M.
SU 12 P.M.– 5 P.M.

Foothill Ranch Library
27002 Cabriole Way
Foothill Ranch, CA 92610
(939) 855-8072
Hours: M–TH 10 A.M.–8 P.M.
SA 10 A.M.–5 P.M.
Closed SU and all major holidays

# 7.2 NEW INFORMATION ON TOPIC AREAS ADDRESSED IN THE DEIR

## 7.2.1 Hydrology

A number of the comment letters to the Draft PEIR questioned the runoff calculations contained in Section 3.8 of the Draft PEIR, and asked why the Project would not result in significant additional runoff and impacts to local creeks and washes, particularly Serrano Creek. The discussion below describes changes in the environmental setting that have occurred since the Draft PEIR was circulated. Specifically, this section details efforts currently underway to restore Serrano Creek and explains why the Project will not interfere with those efforts. The discussion below also includes a new mitigation measure, MM 3.8-5, to ensure that runoff from the Project will not exceed existing conditions. Finally, this section discusses the impact of a recent federal court decision that could potentially affect near-term water supplies in much of Southern California.

### Runoff to Borrego Canyon Wash, Serrano Creek, and Aliso Creek

In response to questions received regarding runoff into Borrego Canyon Wash and Serrano Creek, Table 3.8-1 and Table 3.8-2 from the Draft PEIR have been revised to separate out information for each subwatershed (Borrego Canyon Wash, Serrano Creek, and Aliso Creek) and split the estimated impacts to the individual drainages, Borrego Canyon Wash and Serrano Creek within the San Diego Creek Watershed. Site 1 information was also modified based on an initial hydrology study for the project-level proposed development on this site, which is now available. The more specific calculations do not change the significance of pre-project and post-project runoff differences for Site 1, compared to the Draft PEIR analysis. Both the direction of flow (which watershed would receive runoff water) and actual runoff rates change based on the new information, but the impacts and their magnitude do not change. The calculations upon which these conclusions are based is available from the City upon request.

It should be noted that because of number rounding, the existing conditions runoff coefficients in Table 3.8-1 may seem equal to the Proposed Project runoff coefficients. However, very slight differences are apparent in the percent changes noted in Table 3.8-2. These differences are not significant, although post-development conditions will have lower runoff coefficients (by about -3 percent). As shown in Tables 3.8-1 and 3.8-2, total runoff will be less with the proposed project than under existing conditions.

**Revised Table 3.8-1**
**Assigned Runoff Coefficients for the Proposed Project**

| Site | Runoff Coefficient | | | Watershed* |
|---|---|---|---|---|
| | Existing | General Plan | Proposed Project | |
| 1 | 0.24 | 0.60 | 0.23 | Borrego 82%<br>Serrano 18% |
| 2 | 0.48 | 0.56 | 0.32 | Aliso 80%<br>Serrano 20% |
| 3 | 0.48 | 0.66 | 0.38 | Serrano 100% |
| 4 | 0.48 | 0.70 | 0.60 | Aliso 80%<br>Serrano 20% |
| 5 | 0.44 | 0.50 | 0.30 | Aliso 50%<br>Serrano 50% |
| 6 | 0.44 | 0.25 | 0.30 | Serrano 100% |
| 7 | 0.46 | 0.60 | 0.50 | Serrano 100% |
| Watercourse Composite | | | | |
| Borrego | 0.24 | 0.60 | 0.23 | |
| Serrano | 0.41 | 0.59 | 0.33 | |
| Watershed Composite | | | | |
| San Diego Creek | 0.31 | 0.59 | 0.28 | |
| Aliso Creek | 0.48 | 0.58 | 0.37 | |
| *Total* ** | *0.36* | *0.59* | *0.30* | |

SOURCE: EIP Associates 2006 and Lake Forest Department of Public Works
* Where the site may drain to more than one watercourse, the estimated percent of area draining to each watercourse is identified.
** The total is a blended coefficient.

**Revised Table 3.8-2**
**Magnitude of Runoff Coefficient Change for the Proposed Project**

| Site | Change in Proposed Plan Runoff Coefficient | |
|---|---|---|
| | Existing Conditions (%) | General Plan Conditions (%) |
| 1 | -4.2 | -61.7 |
| 2 | -33.3 | -42.9 |
| 3 | -20.8 | -42.4 |
| 4 | 25.0 | -14.3 |
| 5 | -31.8 | -40.0 |
| 6 | -31.8 | 20.0 |
| 7 | 8.7 | -16.7 |
| *Watercourse Composite* | | |
| Borrego | -4.2 | -61.7 |
| Serrano | -18.2 | -43.3 |
| *Watershed Composite* | | |
| San Diego Creek | -12.2 | -53.7 |
| Aliso Creek | -23.6 | -37.1 |
| Total | -15.6 | -48.7 |

SOURCE: EIP Associates 2006 and Lake Forest Department of Public Works

A comparison of the change in runoff from Opportunities Study Sites in Table 3.8-2 indicates that implementation of the Proposed Project would likely lower the overall runoff within the San Diego and Aliso Creek Watersheds. This is because the existing landscapes are steep, with low-infiltration soils, and

poor vegetative cover. Development of these parcels, however, would require grade modifications (less steep slopes) and landscaping (more infiltration and good vegetative cover), which would lower the overall runoff rate. Lower runoff, because of the Proposed Project, means that there would be no net increase in bank erosion or bedload sediment transport compared to existing conditions.

## New Stormwater Mitigation Measure

The Draft PEIR includes several mitigation strategies for reducing erosion and the Project would be subject to standard conditions and Best Management Practices (BMPs). A new mitigation measure MM 3.8-5 has been added in response to comments to clarify that project-level review requirements would require that there would be no net increase in peak stormflow rates from these sites entering any of these drainages. The new mitigation measure does not alter the conclusions in the Section 3.8 of the Draft PEIR; it is added to provide the public with assurance that as part of project-level environmental review and permitting, actions will be taken to ensure that development of project sites does not result in an increase in stormflows from pre-construction rates. New Mitigation Measure 3.8-5 requires:

> *MM 3.8-5 Prior to issuance of a grading permit, the applicant shall conduct a hydrology and hydraulics study to determine potential stormwater runoff rates and peak flows for the City of Lake Forest and County of Orange design storms, as well as the 100-year storm for both existing and Proposed Project conditions. Sufficient detail shall be provided to develop the existing conditions and Proposed Project conditions potential hydrograph and timing of peak flows. Studies shall be completed by a qualified professional and be consistent with standard engineering practices for the region, including the use of the criteria of the Orange County Hydrology Manual. The studies shall demonstrate that the effect of stormwater discharge to any City-, County-, or Other Agency–owned drainage or flood control facility as mitigated shall be designed and implemented to prevent post-construction stormflows from exceeding pre-construction stormflow rates.*

Mitigation measures MM 3.8-1, M 3.8-2, and M 3.8-5 describe specific strategies for reducing runoff that would not adversely affect current erosion or water quality conditions. For example, for compliance with the existing municipal NPDES permit and Drainage Area Master Plan (DAMP), a Water Quality Management Plan (WQMP) would be developed to assure that post-construction BMPs would be implemented to prevent further degradation of water quality (MM 3.8-1). Please refer to additional discussion of BMPs that can be used to reduce site runoff, referenced on page 3.8-33-34 of the Draft PEIR. As stated on page 3.8-37 of the Draft PEIR, implementation of mitigation measures M 3.8-1 through M 3.8-4 would reduce potential Proposed Project impacts on water quality to less-than-significant levels. The addition of mitigation measure M 3.8-5 would assure that post-project stormwater runoff flows would not exceed existing conditions, which would prevent an increase in potential streambed and bank erosion. Therefore, these mitigation measures establish a performance standard consistent with State CEQA Guidelines Section 15126.4(a)(1)(B).

For all potential BMPs, including detention basins, engineering principles outlined in the *City of Lake Forest Water Quality Management Plan (WQMP) Template/User's Guide* and other engineering references would be used to assure that engineering structure and capacity are designed to adequately treat stormwater. Furthermore, Mitigation Measure 3.8-1 requires that the WQMP obtain acceptance by the City Engineer to make certain that the types of BMPs are appropriate and that the design, placement, and design capacity of BMPs are adequate. Assessment of design specifications for Proposed Project sites will

be completed and when specific projects are formally proposed and when specific land uses and drainage patterns/conveyances are identified.

Additional measures for reducing runoff and improving water quality (aside from detention basins) are referenced on pages 3.8-33 to -34 of the Draft PEIR. Each site-specific project's WQMP and overall design would be evaluated for incorporation of appropriate BMPs to the maximum extent practicable.

The analysis for potential impacts of the project is "programmatic" and a project-level analysis and mitigation will be required when specific projects are proposed for any of the sites identified programmatically in this Draft PEIR. Therefore, any potential analysis as it relates to future projects would be provided in detail within project-level environmental documents.

### Efforts to Improve Serrano Creek Conditions

Since the Draft PEIR was released for public review, investigation of both long and short-term solutions for Serrano Creek have begun, independently of the Opportunities Study project. An interim slope stabilization project in Serrano Creek within the Autumnwood Homeowners Association was completed in October 2006.

A Memorandum of Understanding between the County of Orange, Orange County Flood Control District, City of Lake Forest, and Irvine Ranch Water District (IRWD) was executed in December 2006 to establish a framework for a cooperative effort aimed at the stabilization of Serrano Creek between Trabuco Road and Rancho Parkway.

A long-term solution for Serrano Creek is currently being developed. The anticipated program includes the following: feasibility study, restoration project design, permits, bidding, construction, maintenance, and monitoring. In June, 2007 work began on a feasibility study that will provide recommendations for the design of the restoration project. The feasibility study will be completed in early 2008 and will include recommendations for Serrano Creek between Trabuco Road and Rancho Parkway. In addition to the feasibility study, County staff is working to identify grants and other funding that can be used to construct the ultimate restoration project.

The efforts described above are designed to improve the conditions in Serrano Creek. The Opportunities Study will not interfere with those efforts because, as explained in the preceding section, the proposed project will not increase stormflows or rates within Serrano Creek.

## 7.2.2 Schools

Since the circulation of the Draft PEIR in 2006 some progress has been made regarding the required school mitigation for the Opportunities Study.

### Mitigation Fees

The Saddleback Unified School District (SVUSD) plans and operates the public elementary, intermediate and high schools within the City. SVUSD and all of the Opportunities Study participating landowners

continue to discuss a school mitigation agreement to address the specific impacts of the Opportunities Study (as discussed on page 3.12-12 of the Draft PEIR). The landowners and SVUSD have discussed potential improvements to existing school facilities and a potential new elementary school, if warranted.

Under Government Code Section 65995 et seq., the City can only require the landowners, as a condition of project approval, to pay a set mitigation fee, and the City cannot require payment in excess of this fee as mitigation for school impacts under CEQA. The City may allow the applicant and SVUSD to negotiate for a different fee. Depending on the ultimate unit count granted to the Opportunity Studies area participants, and therefore the students projected to be generated, the landowners and SVUSD may discuss fees in excess of the required mitigation.

The landowners intend to work with SVUSD in an effort to ensure that school mitigation fees from the project are expended locally. SVUSD must approve the final mitigation agreement with the landowners. As explained in the Draft PEIR, if no mitigation agreement can be reached between SVUSD and the landowners, the landowners will pay the statutory school fees. Government Code Section 65995(h) provides that payment of the statutory school fees is full mitigation under CEQA. Similarly, the statutory structure establishes performance standards. Thus, because the ultimate mitigation agreement may exceed statutory fees, impacts of the Project will remain less than significant.

### Site Specific Concerns at Portola Hills Elementary School

Apart from the required mitigation described in the Draft PEIR, the owner of the Portola Center Property (Site 2) has worked with SVUSD to address the current concerns regarding the safety of several buildings at Portola Hills Elementary School. Geotechnical, soil and structural experts identified necessary corrective measures and the Portola Center landowner is committed to assisting SVUSD in fixing issues at the school as identified by the studies. The studies concluded that buildings A, C, D and the Learning Center are in usable condition; buildings B and F and the surrounding walkways require repairs, known as "mud-jacking," to re-level the buildings for future use; and building E should be demolished. The recommended remedial work at Portola Hills Elementary is currently out to bid and should be under construction during the Spring/Summer of 2008. Currently buildings B, E and F, containing 12 classrooms, are not used. Six portable buildings were removed from the site in Summer 2007. As noted above, SVUSD is the agency responsible for any improvements to Portola Hills Elementary School.

## 7.2.3 Great Park Development in Irvine

There has been some public discussion regarding the City of Irvine increasing the allowable number of residential units within the Heritage Fields plan as part of the Great Park development. The City of Irvine has indicated in a letter dated July 19, 2007, that no application for such an increase has been submitted to date. Any proposal to increase the number of residential units in the Heritage Fields plan would require approval of a General Plan Amendment and Zone Change by the City of Irvine in addition to the appropriate supporting environmental documentation. At this time, any change to the Heritage Fields plan is speculative and is therefore not addressed in the RDPEIR.

## 7.2.4 Alton Parkway

Subsequent to the public review period for the Draft PEIR, the County of Orange circulated its Draft EIR for the Alton Parkway Extension Project, EIR No. 585 ("Alton Parkway Draft EIR") which analyzes the impacts of construction of the segment of Alton Parkway from Towne Centre Drive in Lake Forest to Irvine Boulevard in Irvine. The purpose of the Alton Parkway Draft EIR was to analyze various alignments for the proposed Alton Parkway project, and address impacts and proposed improvements to that segement of Borrego Canyon Wash that parallels the proposed Alton Parkway segment. Included in the Alton Parkway Draft EIR is a discussion and analysis of the improvements to Borrego Canyon Wash through the Shea-Baker Ranch property in the City of Lake Forest (Site 1). The Draft PEIR also describes the proposed improvements that are analyzed in the Alton Parkway Draft EIR to control erosion and sediment transport in the Borrego Canyon Wash. (See Draft PEIR at 3.8-35 to 36.) Those improvements include the construction of an erosion resistant armor, consisting of a series of sheet piles placed outside of federal jurisdictional waters, along one side of the Borrego Canyon Wash within Site 1. The purpose of the armoring is to protect against possible future migration of the Wash and to reduce further bank erosion.

The Alton Parkway Draft EIR also includes a design alternative for the Borrego Canyon Wash, referred to in the Alton Parkway Draft EIR as Alternative 4. This alternative would construct a buried concrete boxed channel ("Bypass Channel") within the Site 1 contiguous with the east side of the Borrego Canyon Wash. The Bypass Channel is proposed to accept flows from upstream of Site 1 as they arrive at the northern property boundary of Site 1. The Bypass Channel would run parallel to the existing Wash alignment for approximately 4,300 linear feet. Low flows (i.e., the maximum flows that are non-erosive) would continue to be directed to the existing unimproved Borrego Canyon Wash, with heavier (erosive) storm flows being directed to the Bypass Channel. The Bypass Channel would replace the need for the erosion-resistant armor that the original Alton Parkway development project proposed to install along the portion of the Borrego Canyon Wash within Site 1. This bypass channel would reduce the potential for future migration of the Wash and reduce erosion within the Site 1 reach of the Wash. In addition, directing the low flows through the existing alignment of the Borrego Canyon Wash would allow for the enhancement of riparian vegetation and habitat within the Wash and provide for wildlife movement. An energy dissipation structure would also be constructed at the point where the water outlets from the Bypass Channel into the Borrego Canyon Wash within Site 1. The energy dissipation structure would slow the flows sufficiently to minimize erosion. The impacts of Alternative 4 were addressed in the County's Alton Parkway Draft EIR, and it was identified in the Alton Parkway Draft EIR as the environmentally superior alternative with respect to impacts on Borrego Canyon Wash.

As a result of the on-going agency coordination process, the County Resources and Development Management Department ("RDMD") has met on several occasions with the Cities of Lake Forest and Irvine, and the resource and regulatory agencies to discuss the Alton Parkway-Borrego Canyon Wash project. The County staff recommended to the County Board of Supervisors Alternative 4, instead of the use of erosion resistant armoring, for the portion of Borrego Canyon Wash that traverses Site 1. On September 18, 2007, the Orange County Board of Supervisors certified the Alton Parkway Final EIR, and selected the preferred alignment for and approved the Alton Parkway Extension project. Included in its approval was the selection of Alternative 4 for Borrego Canyon Wash. The impacts of this alternative were considered in the County's Alton Parkway Final EIR. The County is continuing to implement the Alton Parkway Extension project and will be considering awarding a contract for the detailed design phase of the Alton Parkway project in December, 2007.

## 7.2.5 Portola Hills

A number of comments received on the Draft PEIR asked for clarification of issues surrounding the proposed development on Site 2, Portola Center. The requested information will be included in the Final PEIR in the Response to Comments Chapter. Responses to all comment letters received during the 2006 public comment period as well as the 2007 RDPEIR comment period will be provided in the Final PEIR. Any comments submitted during the 2007 public review period should be limited to any new information provided in the RDEIR and do not need to address the same issues for which comments have already been submitted as these comments are addressed in the Final PEIR.

This discussion provides some additional setting information regarding Site 2.

### *Intersections Studied*

The Draft PEIR evaluates 39 intersections in the overall Opportunities Study Area and an additional 31 intersections in the Extended Study Area, for a comprehensive review of the potential transportation impacts of the proposed project. The Study Area and Extended Study Area for the Traffic Study was determined based on peak hour intersection criteria; the Traffic Study Area and Extended Study Area include all major intersections where the Opportunities Study program would increase traffic by more than one percent. Intersections experiencing less than a one percent increase would have no potential to be impacted by the proposed project.

### *Site Specific Traffic Studies*

The City's General Plan and the Draft PEIR include performance criteria to which all intersections must conform. The exact improvements/geometrics and costs related to each specific project will be defined in the project level environmental review. Site specific traffic studies will be required for each of the properties in the Opportunities Study Area to determine where traffic signals, lane augmentation, stop signs and other localized improvements will be required. This level of study takes place when subdivision maps are submitted for the precise development of each property and a site specific environmental document is prepared. For example, this level of study will determine the required improvements at the intersection of Saddleback Ranch Road and Glenn Ranch Road, which is located entirely within the Portola Center property, and is considered a "Project Feature" of the proposed Portola Center development. The project level traffic study will determine what improvements are necessary to the intersections within the project area and will determine the developer's fair share of the improvements to the secondary intersections (defined below).

The focus at the current Program level analysis is system-wide cumulative impacts. The City's goals are (1) to ensure a funding mechanism is in place to pay for the cumulative system-wide improvements that are not Project Features tied to a single development (which would be fully funded by the applicant); (2) to create a benefit for all Lake Forest residents in the form of enhanced mitigation; and (3) to impose standards for future performance and a process to ensure that performance occurs consistent with State CEQA Guidelines section 15126.4(a)(1)(B).

In addition, while the analysis of project level intersections is not part of the program-level analysis, the Lake Forest Traffic Mitigation Program (LFTM) requires analysis of intersections within each of the sites as part of project-level review, as well as analysis of a specific list of twenty intersections (called "secondary intersections") at the project level, as part of the project level traffic studies required at the next level of analysis. Seven intersections are specified for the Portola Center applicant to study as part of the project level traffic study. The seven required intersections for Portola Center are:

- El Toro Road at Glenn Ranch Road,
- Saddleback Ranch Road at Malabar Road,
- Saddleback Ranch Road at Millwood Road,
- Marguerite Parkway at El Toro Road,
- Marguerite Parkway at Los Alisos Boulevard,
- Marguerite Parkway at Santa Margarita Parkway, and
- Los Alisos Boulevard at Santa Margarita Parkway
-

## 7.2.6 Global Climate Change

### Introduction

According to California Environmental Quality Act (CEQA) Guidelines Section 15002(a)(1), one of the basic purposes of CEQA is to, "(i)nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities." Furthermore, the CEQA Statutes "require a finding that a project may have a 'significant effect on the environment' if one or more of the following conditions exist:

(1) A proposed project has the potential to degrade the quality of the environment, curtail the range of the environment, or to achieve short-term, to the disadvantage of long-term, environmental goals.
(2) The possible effects of a project are individually limited but cumulatively considerable. As used in this paragraph, 'cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.
(3) The environmental effects of project will cause substantial adverse effects on human beings, either directly or indirectly." (Public Resources Code § 21083(b))

Currently, neither CEQA nor the State CEQA Guidelines expressly require the City to analyze potential global warming (also referred to herein as "climate change" or "global climate change"). However, the State Legislature (as expressed in its adoption of AB 32, *The California Climate Solutions Act of 2006* and SB 97 dealing with guidelines for mitigation of greenhouse gas emissions effects) and the Governor (through Executive Order S-3-05) have both indicated that global warming threatens significant adverse effects to the environment. Therefore, this section evaluates the potential direct and cumulative global climate change impacts of development under the Proposed Project for potential significance under CEQA.

The Governor's Office of Planning and Research has monitored CEQA documents submitted to the State Clearinghouse for global warming discussions, and found that, as of October 2007, only 4.2% of

CEQA documents contained any discussion of climate change or greenhouse gas emissions. Further, those that did include such an analysis used a wide variety of methodologies and reached different conclusions. In the absence of any guidance or official methodology, the analysis below represents the City's best effort to analyze and disclose the Project's potential contribution to global warming impacts.

## Environmental Setting

### *Overview*

Atmospheric greenhouse gases (GHGs) and clouds within the Earth's atmosphere influence the Earth's temperature by absorbing most of the infrared radiation rising from the Earth's sun-warmed surface that would otherwise escape into space. This process is commonly known as the Greenhouse Effect. GHGs and clouds, in turn, radiate some heat back to the Earth's surface and some out to space. The resulting balance between incoming solar radiation and outgoing radiation from both the Earth's surface and atmosphere keeps the planet habitable.

However, anthropogenic (i.e., caused by humans) emissions of GHGs into the atmosphere enhance the Greenhouse Effect by absorbing the radiation from other atmospheric GHGs that would otherwise escape to space, thereby trapping more radiation in the atmosphere and causing temperature to increase. The human-produced GHGs responsible for increasing the Greenhouse Effect and their relative contribution to global warming (i.e., their relative ability to trap heat in the atmosphere) are: carbon dioxide ($CO_2$) (53 percent); methane ($CH_4$) (17 percent); near-surface ozone ($O_3$) (13 percent); nitrous oxide ($N_2O$) (12 percent); and chlorofluorocarbons (CFCs) (5 percent). The most common GHG is $CO_2$, which constitutes approximately 84 percent of all GHG emissions in California (CEC 2006). Worldwide, the State of California ranks as the 12$^{th}$ to 16$^{th}$ largest emitter of $CO_2$ (the most prevalent GHG) and is responsible for approximately 2 percent of the world's $CO_2$ emissions (CEC 2006).

The increasing emissions of these GHGs—primarily associated with the burning of fossil fuels (during motorized transport, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.) and deforestation, as well as agricultural activity and the decomposition of solid waste—have led to a trend of anthropogenic warming of the Earth's average temperature, which is causing changes in the Earth's climate. This increasing temperature phenomenon is known as global warming and the climatic effect is known as climate change or global climate change. The State Legislature adopted the public policy position that global warming is, "a serious threat to the economic well-being, public health, natural resources, and the environment of California" (Health and Safety Code § 38501). Further, the State Legislature has determined that, "the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems," and that, "(g)lobal warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry (and)…will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the State" (Health and Safety Code § 38501). These public policy statements became law with the enactment of AB 32, Statutes of 2006.

Even before the enactment of AB 32, Governor Arnold Schwarzenegger signed Executive Order #S-3-05 on June 1, 2005, which mandated certain reductions in GHG emissions and calls for the California Environmental Protection Agency (CalEPA) to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy. The first of these reports, "Scenarios of Climate Change in California: An Overview" (Climate Scenarios report), was published in February 2006 (California Climate Change Center 2006).

The Climate Scenarios report uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century: lower warming range (3.0-5.5°F); medium warming range (5.5-8.0°F); and higher warming range (8.0-10.5°F). The Climate Scenarios report then presents analysis of future climate in California under each warming range.

Each emissions scenario would result in substantial temperature increases for California. According to the report, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. Under the emissions scenarios of the Climate Scenarios report (California Climate Change Center 2006), the impacts of global warming in California are anticipated to include, but are not limited to, the following areas.

### *Public Health*

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

### *Water Resources*

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If global warming continues unabated, more precipitation may fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming scenario, snowpack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snowpack will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major state fresh water supply.

Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25 percent of the water supply they need, decrease the potential for hydropower production within the state (although the effects on hydropower are uncertain), and seriously harm winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

## *Agriculture*

Global warming is expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher $CO_2$ levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development will change, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate $O_3$ pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

## *Forests and Landscapes*

Global warming is expected to intensify this threat by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range,

the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30 percent toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90 percent.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems are expected to decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests is also expected to decrease as a result of global warming.

### *Rising Sea Levels*

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the state's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming scenario, sea level is anticipated to rise 12-14 inches.

### *Uncertainties in Existing Data*

As noted above, the Climate Scenarios report was based on a range of potential emissions scenarios. While the report found that the emissions reductions mandated in the Executive Order could lessen the impacts of global climate change, the actual climatological responses to GHG emissions are subject to many variables. For example, to avoid the more severe consequences of global climate change, the remainder of the industrialized world would have to follow California's lead. Even assuming such reductions are achieved in the industrialized world, the impact of that reduction "depends crucially on the development patterns of the developing world." (Climate Scenarios report, at p. 38.) Additionally, because of the accumulation of GHG gasses in the atmosphere, temperatures will likely rise even if reduction actions are taken immediately. Ultimately, the Climate Scenarios report concluded that additional information is required:

> There are key unknowns in the cascade of effects of climate change that inhibit better planning and policy actions. For example, better monitoring is needed of California's climate and climate-sensitive sectors to detect and understand a complex chain of impacts. In particular, more work is needed on ecological impacts both in terrestrial and aquatic systems, in the development of more detailed, probabilistic climate projections for the state, and to determine how climate changes and environmentally related policies might impact the California economy, recreation, and tourism. A more comprehensive analysis of the effects of climate change on energy supply and demand, within and outside of California, is needed. The effect of climate change on water resources, including more quantitative understanding of water supply and water demand for the rich complex of agricultural and natural ecosystems in the state is still not well understood. A geographically detailed analysis of the impacts of sea level rise on the California coast and the San Francisco Bay and Delta will be needed to assess potential impacts and conduct

> planning on local and regional scales. The impact of climate and climate change on temperature-related deaths, air pollutant emissions and quality impacts, and other aspects of human health will require more data and further study. Population growth, urbanization, and technological innovation are among a number of important factors that directly affect these areas. Given the serious potential consequences of climate change on the state's resources, the research community should continue to produce the tools, methods, and information that will be needed to develop robust coping or adaptation strategies in California.

(Climate Strategies report, at p. 41.) Thus, technical data do not yet exist that would allow the City to determine with precision how the Project would impact global climate.

## *Jobs Housing Balance*

Certain land use strategies could potentially lead to reductions in GHG emissions. For example, improving a community's jobs/housing balance could reduce vehicle miles traveled. Because VMT makes up such a large component of GHG emissions, improving the jobs/housing balance may reduce those emissions. As explained in the Draft PEIR, implementation of the Project would improve the City's jobs/housing balance by providing greater housing, including affordable housing, opportunities. Specifically, implementation would improve the City's jobs/housing ratio (see Draft PEIR, at p. 3.11-11).

The City is located within a jobs-rich portion of South Orange County. According to the Orange County Projections 2006 (OCP 2006) by the Center for Demographic Research at Cal State Fullerton, the City contained 26,671 housing units and 33,022 jobs in 2005; this is a ratio of 1.24 jobs per housing unit. Countywide there were 1,014,331 housing units and 1,615,936 jobs in 2005 for a ratio of 1.59 jobs per housing unit. The City borders the jobs-rich City of Irvine which contained 68,735 housing units and 219,454 jobs in 2005 for a ratio of 3.19 jobs per housing unit.

Under its current General Plan, the City is anticipated to add over 26,000 jobs and only 125 additional housing units between 2005 and 2035. Based on these projections, the anticipated jobs-housing ratio in 2035 would be 2.23 jobs per housing unit. The Proposed Project would add up to 5,415 housing units and approximately 1,297 new jobs. The following table compares the estimated jobs/housing balance with the Proposed Project as compared to the current General Plan.

**Table 7.2.6-1**
**Jobs/Housing Balance Comparison**

| | *2035 Housing Units* | *2035 Jobs* | *Jobs/Housing Ratio* |
|---|---|---|---|
| Current General Plan | 26,796 | 59,746 | 2.23 |
| Proposed Project | 32,211 | 41,425 | 1.29 |

According to SCAG, areas with jobs to household ratios between 1.0 and 1.29 are considered in balance. Therefore, the Proposed Project would ensure a better jobs/housing balance within the City and also would place housing in a jobs dense region providing an opportunity for workers employed in the City and Irvine to live closer to work and to reduce total VMT.

### *Project Design Features*

In considering the Project's potential effect on global climate change, certain features of the Project's design are relevant. The following Project Design Features are part of the proposed Project:

*GCCPDF1.* *The two recreational centers proposed as part of development of Site 1 (Shea Baker Ranch Associates) shall be designed and constructed to include a photovoltaic system to reduce energy consumption.*

*GCCPDF2.* *Residential development shall be constructed with the following features to reduce energy consumption so long as they pose no conflict with applicable Building Code requirements: installation of a majority of Energy Star appliances; installation of high efficiency HVAC equipment with SEER rating of 13 or higher and TXV valve; installation of vinyl frame windows with dual pane low emissivity glass; installation of natural gas clean burning fireplaces; installation of water efficient plumbing fixtures to reduce water consumption; and provision of an option to the homeowner to include electric vehicle charging facilities in the residence garage.*

*GCCPDF3.* *Bicycle lanes and walking paths shall be incorporated into the street system of new residential development to provide alternative circulation routes to reach logical points of destinations such as schools, parks and retail areas.*

## Planning and Regulatory Framework

### *Federal Plans, Policies, Regulations, and Laws*

As of this writing, there are no adopted federal plans, policies, regulations or laws mandating reductions in GHG emissions that cause global warming. According to the U.S. Environmental Protection Agency (EPA), "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The Federal government's goal is to reduce the greenhouse gas intensity (a measurement of greenhouse gas emissions per unit of economic activity) of the American economy by 18 percent over the 10-year period from 2002 to 2012. In addition, EPA administers multiple programs that encourage voluntary GHG reductions, including ENERGY STAR, Climate Leaders, and Methane Voluntary Programs (EPA 2007).

### *State Plans, Policies, Regulations, and Laws*

#### Assembly Bill 32, the California Climate Solutions Act of 2006 (Health and Safety Code § 38500 et seq.)

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Climate Solutions Act of 2006, into law. In general, AB 32 directs the California Air Resources Board (ARB or State Board) to do the following:

- On or before June 30, 2007, ARB shall publicly make available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- By January 1, 2008, determine the statewide levels of GHG emissions in 1990, and adopt a statewide GHG emissions limit that is equivalent to the 1990 level (an approximately 25 percent reduction in existing statewide GHG emissions[1]);
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012 at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and nonmonetary incentives that reduce GHG emissions from any sources of categories of sources as the ARB finds necessary to achieve the statewide GHG emissions limit; and
- The ARB shall monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

AB 32 also takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring the ARB to recommend a de minimis threshold of GHG emissions below which emissions reduction requirements would not apply. AB 32 also allows the Governor to adjust the deadlines mentioned above for individual regulations or the entire state to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

### Assembly Bill 1493

In 2002, then Governor Gray Davis signed AB 1493. AB 1493 required the ARB to develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by the ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, ARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961) and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. Emission requirements adopted as part of CCR 13 1961.1 are shown in Table 7.2.6-2. For passenger cars and light-duty trucks 3,750 pounds (lbs) or less loaded vehicle weight (LVW), the 2016 GHG emission limits are approximately 37 percent lower than the during the first year of the regulations in 2009. For medium-duty passenger vehicles and light-duty trucks 3,751 LVW to 8,500 lbs gross vehicle weight (GVW), GHG emissions are reduced approximately 24 percent between 2009 and 2016.

[1] Press release from the Office of the Governor, available at http://gov.ca.gov/index.php?/print-version/press-release/4111.

In December 2004 a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufactures filed suit against the ARB to prevent enforcement of CCR 13 1900 and CCR 13 1961 as amended by AB 1493 and CCR 13 1961.1 (Central Valley Chrysler-Jeep et al., v. Catherine E. Witherspoon, in her official capacity as Executive Director of the California Air Resources Board, et al.). The suit, being heard in the U.S. District Court for the Eastern District of California, contends that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies. To date, the suit has not been settled, and the judge has issued an injunction stating ARB cannot enforce the regulations in question before receiving appropriate authorization from the U.S. Environmental Protection Agency (EPA).

**Table 7.2.6-2**
**Fleet Average GHG Exhaust Emission Requirements Included in CCR 13 1961.1**

| | *Fleet Average GHG Emissions (grams per mile CO2 equivalents)* | |
|---|---|---|
| *Vehicle Model Year* | *All Passenger Cars; Light-Duty Trucks 0-3,750 lbs loaded vehicle weight (LVW)1* | *Light-Duty Trucks 3,751 lbs LVW to 8.500 lbs gross vehicle weight (GVW); Medium-Duty Passenger Vehicles1* |
| 2009 | 323 | 439 |
| 2010 | 301 | 420 |
| 2011 | 267 | 390 |
| 2012 | 233 | 361 |
| 2013 | 227 | 355 |
| 2014 | 222 | 350 |
| 2015 | 213 | 341 |
| 2016 | 205 | 332 |

[1]Specific Characteristics of Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles are provided in CCR 13 1900 as amended to comply with AB 1493

In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court Case, *Massachusetts vs. EPA*, the primary issue in question is whether the federal Clean Air Act provides authority for EPA to regulate $CO_2$ emissions. In April 2007, the U.S. Supreme Court ruled in *Massachusetts'* favor, holding that GHGs are air pollutants under the Clean Air Act. In May 2007, the EPA held two public hearings on ARB's request for EPA authorization to implement the GHG reductions measure for motor vehicles required by AB 1493. In December 2007, the federal court in the *Central Valley Chrysler-Jeep* case dismissed the lawsuit. As of this writing, however, the EPA has not made a decision on ARB's request for authorization to implement the GHG reduction measure for motor vehicles.

### Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the California Public Utilities Commission (PUC) to establish a GHG emission performance standard for baseload generation from investor-owned utilities by February 1, 2007. Similarly, the California Energy Commission (CEC) was tasked with establishing a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate

from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and the CEC. In January 2007, the PUC adopted an interim Greenhouse Gas (GHG) Emissions Performance Standard, which requires that all new long-term commitments for baseload generation entered into by investor-owned utilities have emissions no greater than a combined cycle gas turbine plant (i.e., 1,100 pounds of $CO_2$ per megawatt-hour). A "new long-term commitment" refers to new plant investments (new construction), new or renewal contracts with a term of 5 years or more, or major investments by the utility in its existing baseload power plants. In May 2007, the CEC approved regulations that prohibit the state's publicly owned utilities from entering into long-term financial commitments with plants that exceed the standard adopted by the PUC of 1,100 pounds of $CO_2$ per megawatt hour.

### Senate Bill 107

Senate Bill (SB) 107 of 2006 requires investor owned utilities in the state to increase their total procurement of eligible renewable energy resources by at least an additional 1% of retail sales per year so that 20% have 20 percent of retail electricity sales come from renewable energy sources by December 31st, 2010. Previously, state law required achievement of this 20 percent requirement by 2017.

### Senate Bill 1505

Senate Bill (SB) 1505 of 2006 establishes environmental performance standards for the production and use of hydrogen fuel for transportation purposes in the state. In general, SB 1505 specifically requires that: hydrogen fueled vehicles reduce GHG emissions by at least 30% compared to emissions from new gasoline vehicles; at least one-third of the hydrogen produced or dispensed for transportation purposes in the state must be made from renewable sources of electricity; well-to-tank emissions of smog-forming pollutants from hydrogen fuel dispended in the state must be reduced by at least 50% when compared to gasoline; and emissions of toxic contaminants must be reduced to the maximum extent feasible compared to gasoline on a site specific basis.

### Senate Bill 97

Senate Bill (SB) 97 of 2007 requires the California Office of Planning and Research (OPR) to prepare and transmit guidelines for analysis and, if necessary, the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions to the Resources Agency by July 1, 2009. These guidelines for analysis and mitigation must address, but are not limited to, greenhouse gas emissions effects associated with transportation or energy consumption. Following receipt of these guidelines, the Resources Agency must certify and adopt the guidelines prepared by OPR by January 1, 2010.

In his signing statement, Governor Arnold Schwarzenegger noted:

> Current uncertainty as to what type of analysis of greenhouse gas emissions is required under the California Environmental Quality Act (CEQA) has led to legal claims being asserted which would stop these important infrastructure projects. Litigation under CEQA is not the best approach to reduce greenhouse gas emissions and maintain a sound and vibrant economy. To achieve these goals, we need a coordinated policy, not a piecemeal approach dictated by litigation.

Thus, the Office of Planning and Research has begun the process of formulating the guidelines called for in SB 97. Part of that effort included a survey of existing climate change analyses performed by various lead agencies under CEQA. OPR's effort revealed many questions surrounding such analyses, including, among others, what is a "new" GHG emission, what is the appropriate baseline for a climate change analysis, and when would emissions become significant under CEQA. ("Climate Change and CEQA," Presentation by Cynthia Bryant, OPR Director, to the California State Association of Counties, November 14, 2007.)

#### Executive Order S-20-04 – The California Green Building Initiative

Governor Schwarzenegger signed Executive Order S-20-04 ("The California Green Building Initiative") establishing the State's priority for energy and resource-efficient high performance buildings on December 14, 2004. The Executive Order sets a goal of reducing energy use in state-owned and private commercial buildings by 20 percent in 2015 using non-residential Title 20 and 24 standards adopted in 2003 as the baseline. The California Green Building Initiative also encourages private commercial buildings to be retrofitted, constructed and operated in compliance with the State's Green Building Action Plan.

#### California Solar Initiative

As part of the California Solar Initiative, the state has set a goal to create 3,000 megawatts of new solar-produced electricity by 2017 through the provision of approximately $3.3 billion in incentives to existing residential customers and all non-residential customers by the California Public Utility Commission (CPUC) and to new residential customers by the California Energy Commission (CEC).

#### Executive Order #S-3-05

Executive Order #S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80-percent reduction in GHG emissions below 1990 levels by 2050. Executive Order #S-3-05 also calls for the California Environmental Protection Agency (CalEPA) to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy. The first of these reports, "Scenarios of Climate Change in California: An Overview" (Climate Scenarios report), was published in February 2006 (California Climate Change Center 2006), and is summarized above.

### *Local Plans and Programs*

The City has a voluntary green building program for residential remodels known as the Lake Forest Green Home Education Program.

## Thresholds of Significance

As stated above, the State Legislature and global scientific community have found that global climate change poses the threat of significant adverse effects to the environment of California and the entire

world. To mitigate those adverse effects, the State Legislature has required statewide GHG reductions to 1990 levels by 2020 and a further reduction to 80 percent of 1990 levels by 2050. Though these statewide reductions are now mandated by law, no generally applicable GHG emission threshold has yet been established, nor will guidance on global climate change analysis in CEQA documents be available until mid-2009.

In light of the lack of established, quantifiable thresholds regarding GHG emissions, the City notes that State CEQA Guidelines section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data" and further that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting." The City further notes that the State CEQA Guidelines indicate that even when thresholds are established, they may include "identifiable quantitative, qualitative or performance level of a particular environmental effect[.]" (State CEQA Guidelines, § 15064.7)

Therefore, the following qualitative global climate change significance threshold is used for this analysis:

- The project's incremental contribution to global climate change would be considered cumulatively significant if, due to the size or nature of the Proposed Project, it would generate a substantial increase in GHG emissions relative to existing conditions.

In this RDPEIR, global climate change is addressed under the threshold above as a cumulative impact because no accepted project-level threshold of significance exists. However, the direct impact of the Project related to global climate change is also calculated and analyzed below. Until the City or other regulatory agency devises a generally applicable climate change threshold, the threshold used in this RDPEIR applies only to the Project addressed in this RDPEIR.

Bearing in mind the principle that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis below is based on methodologies and information available to the City of Lake Forest at the time the RDPEIR was prepared. The estimation of GHG emissions in the future do not account for changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that which is likely to be encountered.

Additionally, as noted above, many uncertainties exist regarding the relationship between specific levels of GHG emissions and the ultimate impact on global climate. Significant uncertainties also exist regarding the reduction potential of potential reduction strategies. Thus, while information is presented below to assist the public and the City's decision-makers in understanding the Project's potential contribution to global climate change impacts, the information available to the City is not sufficiently detailed to allow a direct comparison between particular Project characteristics and particular impacts, nor between any particular proposed mitigation measure and any reduction in climate change impacts.

Thus, the City finds that existing information may be sufficient to inform the public and the City regarding the climate change phenomenon, as well as whether aspects of the Project may potentially contribute to that phenomenon. However, the City also finds that the information is not sufficiently developed to enable the City to formulate mitigation measures that are capable of eliminating the potential global warming impact, or to support a finding that proposed mitigation is roughly proportional

to the Project's potential impacts. As explained in greater detail below, the evaluation of whether particular mitigation measures would minimize potential climate change impacts, and whether such measures would satisfy constitutional limitations on mitigation, is speculative.

## Impacts

Future development projects anticipated during implementation of the Proposed Project could result in increased GHG emissions due to increased vehicle miles traveled (VMT), increased electricity and natural gas consumption, and increased solid waste generation and subsequent disposal into landfills. GHG emissions result from $CO_2$, $CH_4$, and $N_2O$ that is released during the combustion of gasoline or diesel fuel in vehicles, the burning of fossil fuels to produce electricity, and the use of natural gas to heat and power residential and nonresidential buildings. Increased disposal and storage of solid waste into landfills leads to increased $CH_4$ and $CO_2$ emissions when the landfill's waste decomposes.

As discussed previously, historic and current global GHG emissions are known by the State and the global scientific community to be causing global climate change. Future increases in GHG emissions potentially associated with development under the Proposed Project could contribute to the significant adverse environmental effects described above. Furthermore, increased GHG emissions associated with the Proposed Project could potentially impede implementation of the State's mandatory requirement under AB 32 to reduce statewide GHG emissions to 1990 levels by the same year.

Although there are no universally accepted methodologies for quantifying emissions of GHGs, methodologies for estimating GHG emissions do exist and are discussed below to provide a rough calculation of GHG emissions[2] associated with projected future vehicle travel and electricity and natural gas consumption associated with development allowed by the Proposed Project. Notably, these rough estimates are likely overstated in the context of this global warming discussion. Many residents brought to the Project area will likely relocate from other areas of the region or state. Thus, the GHG emissions reported below do not necessarily represent *new* emissions caused by the Project; rather, to a certain degree, they represent a relocation of existing GHG emissions.

A summary of GHG emissions under existing conditions and development capacity of the Proposed Project is provided in Table 7.2.6-3.

[2] The GHG emissions estimates for VMT under the Proposed Project include only GHG emissions from the operation of gasoline- and diesel-powered vehicles. Vehicles powered by other fuels including propane, liquefied natural gas (LNG), and compressed natural gas (CNG) would generate additional GHG emissions. The assumptions and methodology used to calculate GHG emissions from VMT, electricity, and natural gas consumption under the Proposed Project are provided in Appendix N.

**Table 7.2.6-3**
**Summary of Greenhouse Gas Emissions for Proposed Development of the Opportunities Study Area**

| Source | Future GHG Emissions (Tons $CO_2e$ at 2030 Buildout) | Percent of City's Total 2030 GHG Emissions |
|---|---|---|
| Vehicles | 90,746 | 14.4% |
| Electricity | 16,234 | 4.3% |
| Natural Gas | 17,159 | 11.6% |
| TOTAL | 124,140 | 10.7% |

## *Vehicle Miles Traveled*

The existing (2005) daily VMT for development within the City of Lake Forest is estimated to be 3,041,834 (Austin-Foust Associates, 2007). Using assumptions for fuel economy and the proportion of gasoline- and diesel-powered engines in the vehicle fleet from the California Department of Transportation (California Department of Transportation, California Motor Vehicle Stock, Travel and Fuel Forecast 2006), and GHG emission factors for transport fuels from the Bay Area Air Quality Management District (BAAQMD 2006), an estimated existing VMT of 3,041,834 (AFA 2007) results in approximately 497,289 tons of carbon dioxide-equivalent ($CO_2e$)[3] while an estimated 2030 VMT of 3,882,975 (AFA 2007) in the City (including the Proposed Project) is projected to result in approximately 631,115 tons of $CO_2e$.

Development proposed within the Opportunities Study Area would result in approximately 90,746 tons of $CO_2e$ associated with VMT, which represents approximately 14.4 percent of the City's total GHG emissions associated with VMT in 2030 (including the Proposed Project). Overall, GHG emissions associated with 2030 VMT in the City of Lake Forest (including the Proposed Project) would increase by about 26.9 percent relative to existing conditions. Detailed sources and the calculations used to estimate GHG emissions are available for review in the Planning Department ~~provided in Appendix N of this Draft RDPEIR~~. This analysis conservatively assumes that all VMT and energy use associated with the Project is 'new' (i.e., such emissions would not otherwise occur if the Project is not implemented), and that since many of the people that would occupy the Project would likely move from elsewhere and no longer contribute to GHG emissions from other locations, the emissions attributable solely to the Project are somewhat lower than calculated. The emissions directly attributable to the Project, however, cannot be accurately estimated.

[3] Carbon-dioxide equivalent is a calculation that enables all GHG emissions to be considered equally in order to measure the impact of all GHG emissions. This is necessary because GHGs vary widely in their ability to absorb radiation and trap heat in the atmosphere, which means their power to affect the climate—or their global warming potential—also varies widely. The global warming potential of GHGs is measured relative to the global warming potential of $CO_2$. For example, since $CH_4$ and NOx are approximately 23 and 300 times more powerful than $CO_2$, respectively, in their ability to trap heat in the atmosphere, they have global warming potentials of 23 and 300 ($CO_2$ has a global warming potential of 1). The global warming potential of each GHG is then multiplied by the prevalence of that gas to produce a carbon-dioxide equivalent ($CO_2e$).

## *Electricity and Natural Gas Consumption*

Based on assumptions for electricity and natural gas consumption per household and GHG emission factors for electricity and natural gas consumption from the California Climate Action Registry General Reporting Protocol (California Climate Action Registry General Reporting Protocol, Version 2.1 June 2006, Appendix C, Tables C.1 and C.2.), electricity and natural gas consumption in Lake Forest for 2005 is estimated to have resulted in approximately 351,215 tons of $CO_2e$ and 121,306 tons of $CO_2e$, respectively, while electricity and natural gas consumption associated with future conditions in 2030 (including the Proposed Project) would result in approximately 381,498 tons of $CO_2e$ and 147,878 tons of $CO_2e$, respectively. Development within the Opportunities Study Area would result in approximately 16,234 tons of $CO_2e$ from electricity consumption and 17,159 tons of $CO_2e$ from natural gas consumption, which represents approximately 4.3 and 11.6 percent of the City's 2030 total GHG emissions associated with electricity and natural gas consumption, respectively.

Existing GHG emissions from VMT and electricity and natural gas consumption for the City were estimated to be approximately 969,809 tons $CO_2e$ in 2005 while GHG emissions under future development (including the Proposed Project) are projected to be approximately 1,160,491 tons $CO_2e$. Development capacity of the Opportunities Study Area would result in approximately 124,140 tons $CO_2e$. Together, this represents an approximately 19.6 percent increase in GHG emissions from these sources within Lake Forest. As noted above in the discussion of VMT, this analysis assumes that all GHG emissions related to electricity and natural gas consumption are "new" emissions. Though the City has no precise estimates, some portion of the Project's residents and business will likely relocate from other areas

Increased solid waste generation and disposal in landfills associated with the Proposed Project is anticipated to result in increased GHG emissions associated with the release of landfill gas (i.e., methane and carbon dioxide). GHG emissions from solid waste deposited in landfills are not quantified in this section because Orange County IWMD is committed to utilizing the most efficient methane and carbon dioxide collection systems available, employing state of the art technology to recover and convert methane from its three landfills into energy (Waste Management Commission Agenda Item 4, Attachment B, September 13, 2007), thereby reducing future climate change impact associated with this source of emission

## *2030 General Plan Development – With and Without Project*

In addition to the analysis above comparing the impacts of the Proposed Project to existing conditions, this section provides a comparison of impacts of the Proposed Project to those expected under implementation of the City's General Plan without the Proposed Project.

An estimated 2030 VMT of 3,882,975 (AFA 2007) in the City's General Plan area (including the Proposed Project) is projected to result in approximately 631,115 tons of $CO_2e$. Without the Proposed Project, development under the City's General Plan will result in an estimated 2030 VMT of 4,424,081 (AFA 2007) or approximately 719,063 tons of $CO_2e$. Development with the Opportunities Study Area under the Proposed Project would result in approximately 90,246 tons of $CO_2e$ associated with VMT compared to 208,516 tons of $CO_2e$ without the Proposed Project.

Electricity and natural gas consumption associated with development of General Plan land use in 2030 (including the Proposed Project) would result in approximately 381,498 tons of $CO_2e$ and 147,878 tons of $CO_2e$, respectively. Development of General Plan land use in 2030 without the Proposed Project would result in approximately 517,068 tons of $CO_2e$ from electricity consumption and 137,136 tons of $CO_2e$ from natural gas consumption.

Development in the Opportunities Study Area in 2030 under the Proposed Project would result in a total of approximately 124,140 tons of $CO_2e$ compared to 382,873 tons of $CO_2e$ without the Proposed Project. General Plan development in 2030 with the Proposed Project is estimated to generate approximately 1,160,491 tons of $CO_2e$ compared with approximately 1,373, 266 tons of $CO_2e$ without the Proposed Project.

The information above indicates that, as a land use strategy, the proposed Project would likely result in fewer GHG emissions than the existing General Plan land use designations in the Project area. This plan to plan comparison is particularly instructive in this global warming discussion because it involves a matter (land use planning, unlike tail-pipe emissions standards, for example) over which the City has jurisdiction and control.

## *Conclusions*

As discussed previously, emission reduction measures targeting sources of GHG emissions called for in AB 32 and SB 97 will likely be adopted in the near future, although no measures have yet been adopted, and it is unknown at this time if the adopted measures will apply to local governments. In addition, ARB has not yet developed de minimis criteria establishing the level of GHG emissions that would not be subject to the emission reduction measures. Also, the status of the mobile source GHG emissions reduction measures proposed to implement AB 1493 remains uncertain as of this writing. However, the actions of the CEC and PUC to implement SB 1368 will potentially reduce the Proposed Project's GHG emissions associated with future electricity consumption. In addition, the City does not have adopted plans or programs explicitly mandating GHG emission reductions, although the City has adopted a voluntary green building program for residential remodels, known as the Lake Forest Green Home Education Program. Therefore, currently adopted federal, state, and local policies and regulations are not anticipated to substantially reduce the Proposed Project's GHG emissions.

As noted above, the State of California has concluded that increasing GHG emissions is a significant cumulative environmental impact. Further, the Proposed Project would contribute, to some degree, to the effects of climate change and the significant adverse environmental effects thereof. Because no thresholds currently exist, the City has evaluated the Project's potential contribution and has made a careful judgment based on scientific and factual data presented above. In particular, the City assumes that some VMT and energy consumption associated with the Project is new, though the precise amount is impossible to know. Assuming that all of the Project's GHG emissions are new, the City notes that total GHG emissions associated with the Project, at 124,140 tons of $CO_2e$, would be exceed some of the Climate Action Team's Early Action Items designed to achieve the State's emissions reductions targets. Though no technical data and methodologies currently exist that would allow the City to determine what level of GHG emissions, on a project-level, would result in a significant cumulative contribution, the City has conservatively concluded that the Project's potential contribution is significant. Additionally,

because it is impossible to know to what degree the Project's contributions are cumulatively considerable, the City cannot state with certainty that the implementation of any particular mitigation measures, including those proposed below, would reduce the Project's contribution of GHG to less than cumulatively considerable levels. Thus, the City concludes that the Project's contributions of GHG emissions are significant and unavoidable.

## Mitigation Measures

Given the lack of scientific specificity regarding the Project's particular contribution to the global climate change phenomenon, as noted above, the formulation of mitigation measures that would reduce or eliminate that contribution is speculative. In addition, CEQA does not grant to lead agencies powers or authority beyond that which they already possess. Thus, any mitigation measures imposed by a lead agency must be consistent with Constitutional limitations. Specifically, any required mitigation must both have a nexus to the impacts of a project and be roughly proportional to the magnitude of a project's impact. (State CEQA Guidelines, § 15126.4(a)(4).) This limitation is particularly significant where, as here, in the absence of regulatory standards or thresholds, mitigation would necessarily be of an ad hoc nature.

These limitations notwithstanding, the City and the Project applicants propose several mitigation measures that may reduce the Project's cumulative contribution to some degree.

The following mitigation measures shall be applied to the Proposed Project to reduce the cumulatively significant incremental contribution to global climate change:

GCC1. The City shall comply with the future requirements for implementation of AB 32 and SB 97 once those implementation requirements are developed.

GCC2. Prior to the issuance of building permits for new commercial and retail projects or residential projects within the Opportunities Study Area, the City shall review the plans to confirm that the project complies with the requirements of Title 24 of the California Code of Regulations.

GCC3. Prior to the issuance of a Site Development Permit for new commercial and retail projects within the Opportunities Study project area, site plans shall include prioritized parking for electric vehicles, hybrid vehicles, and alternative fuel vehicles.

GCC4. The City shall identify energy efficient street lights and water and wastewater pumps and treatment systems which are currently available and which when installed will provide for a 10 percent reduction beyond the 2007 baseline energy use for this infrastructure, and shall require the use of this technology in all new development. All new traffic lights installed within the City shall use LED technology.

GCC5. The City shall require all new development projects in the Opportunities Study Area to recycle and/or salvage at least 25 percent of nonhazardous construction and demolition debris. To implement this requirement, the applicant shall submit a construction waste management plan for review and approval of the Development Services Director prior to

issuance of a Building Permit. The construction waste management plan shall identify materials to be diverted from disposal and whether the materials will be stored on-site or commingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculation can be done by weight or volume but must be documented.

GCC 6. Prior to approval of a Site Development Permit for new development in the Opportunity Study Area, the City shall require that new development within the Opportunity Study Area use reclaimed water for public and common area landscaping where available; install 50 percent native/drought-tolerant plant species in developer-installed landscaped areas; and utilize "smart" advanced capability controllers (e.g., Weather-Trac) to reduce water and energy consumption.

GCC7. Prior to approval of a Site Development Permit for new commercial, retail and industrial projects within the Opportunities Study Area, site plans must incorporate any combination of the following strategies to reduce heat gain created by impervious areas:

- Utilizing shade trees in common area landscaping;
- Reducing the street widths to minimize impervious areas and reduce the use of asphalt;
- Utilizing light-colored and reflective roofing materials and paint;
- Incorporating bioswales where feasible in development areas to capture urban runoff and increase the amount of pervious surfaces.

GCC8. All commercial, industrial and retail development in the Opportunities Study Area shall be required to post signs and limit idling time for commercial vehicles, including delivery trucks to no more than 5 minutes.

## Summary of Impacts

Implementation of Mitigation Measures GCC-1 through GCC-8 would reduce the incremental GHG emissions associated with implementation of the Proposed Project, although the precise degree of the reduction is not known. The City, therefore, conservatively assumes that the reductions would not be to a level less than cumulatively significant. Even with these mitigation measures, implementation of the Proposed Project will continue to contribute to the global climate change impacts of development. Therefore, the cumulatively considerable incremental contribution to the worldwide increase in GHG emissions represented by development that is anticipated to occur with implementation of the Proposed Project is considered significant and unavoidable.

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## 7.2.7 Water Supply

### Water Availability

On January 24, 2005, the Irvine Ranch Water District approved a water supply assessment ("WSA"), pursuant to California Water Code section 10910, for the Opportunities Study Area. The WSA formed the basis for the water supply analysis in the Opportunities Study Draft PEIR, and was included as Appendix G therein.

Following circulation of the Draft PEIR, a federal district court, in a lawsuit involving the federal Endangered Species Act, ordered temporary reductions in pumping from the Sacramento-San Joaquin Delta. The Delta is a critical delivery component for California's State Water Project and the federal Central Valley Project. As a result, jurisdictions that rely on water imported from either Project, including the City, may be subject to reductions in supply to satisfy obligations under the Endangered Species Act.

The City requested that its water supplier, the Irvine Ranch Water District ("IRWD"), reexamine the WSA that was originally prepared for the Opportunities Study Area to determine whether, in light of the potential reductions in water supply, there will still be sufficient water to supply the Project. In addition,

IRWD examined the land use assumptions in the new hybrid Alternative 7 to determine whether sufficient water supplies exist to supply that alterative.

As explained in greater detail below, IRWD concluded that sufficient water would be available to serve the Project, even in light of potential reductions in supplies of imported water. IRWD also concluded that water supplies would be sufficient to serve Alternative 7 in the event the City adopts that alternative. A summary of the federal court order and IRWD's assessment of its impact on the Project's water supply are provided below.

## *The OSA Water Supply Assessment*

As reported in the Draft PEIR, the WSA prepared for the Project concluded that sufficient water supplies would be available for the Project plus projected demand in all water year types through 2025 (Draft PEIR, Appendix G). Additionally, IRWD was projected to have a 2025 potable normal-year supply surplus ranging from 12,078 AFY to 5,462 AFY, depending on water-year type. Reported sources include imported water (potable and non-potable), groundwater (potable and non-potable), recycled water (non-potable), and surface water (non-potable).

Following circulation of the Draft PEIR for the Project, IRWD prepared its 2005 Urban Water Management Plan. (IRWD, 2005 Urban Water Management Plan, November 2005 (incorporated herein by reference pursuant to State CEQA Guidelines section 15150) (available online at http://www.irwd.com/BusinessCenter/UWMP-2005-F.pdf).) The UWMP includes the projected demands associated with the Project. (IRWD 2005 UWMP, at pp. 6-7.) Similar to the WSA, the UWMP projected water supply surpluses in all water year types, through 2030.

## *Overview of the Delta Smelt Decision*

In February 2005, the United States Fish and Wildlife Service ("FWS") issued a "no jeopardy" determination and biological opinion ("B.O.") analyzing impacts to the threatened delta smelt in connection with in-Delta operations of the Central Valley Project ("CVP") and the State Water Project ("SWP") (collectively, the "Projects") through the year 2030. The B.O. evaluated not only the Projects' existing Delta pumping operations, but also proposals to increase SWP pumping by 20% some time during the 30-year period and to undertake other operational changes.

The Natural Resources Defense Council and several other groups (collectively, "NRDC") filed suit in federal court against FWS and the Secretary of the Interior challenging the validity of the B.O. (*Natural Resources Defense Council v. Kempthorne, et al.*, USDC Case No. 05-CV-1207-OWW.) The California Department of Water Resources ("DWR"), as well as groups representing the public agencies that hold contracts to receive water from the two Projects, intervened in the action.

In May 2007, the court determined that the B.O. violated the requirements of the federal Endangered Species Act ("ESA"). At approximately the same time, FWS and the Bureau of Reclamation, the operator of the CVP, reinitiated ESA Section 7 consultation regarding how the Projects affect smelt. Thus, the two agencies are now preparing the necessary documentation to produce a new B.O. However, that new document is not expected until late 2008. As a result of this timing, and the record low number of smelt now inhabiting the Delta, NRDC asked the Court to impose an "interim remedy"

that would be effective until the new B.O. is completed. The district court, therefore, conducted a trial in August 2007 to receive evidence on what the interim remedy should be. Following the hearing, the Court issued an oral ruling that ordered temporary reductions in Delta exports until the new B.O. is completed.

## *Updated Information from IRWD*

In November 2007, IRWD provided the City with information assessing Alternative 7 and the potential impact of the Delta Smelt decision on the analysis in the Project's WSA. (Letter from Gregory Heiertz, Director of Engineering and Planning for IRWD, to Gayle Ackerman, Development Services Director for the City of Lake Forest, November 1, 2007.)

Regarding Alternative 7, IRWD concluded that adoption of that alternative would not materially alter the conclusions in the existing WSA. The water demand for the Project, as described in the Draft PEIR, has been included in IRWD's most recent Urban Water Management Plan, adopted November 2005. Alternative 7, moreover, is a reduced density alternative. Thus, even with greater area proposed as parkland, water demand under that alternative would be less than that in the proposed Project. Therefore, adoption of Alternative 7 would not affect the analysis in the WSA.

Regarding the impact of the Delta Smelt decision, IRWD reports that its imported water wholesaler, the Metropolitan Water District ("MWD"), has been monitoring the vulnerabilities of the Delta water supply. In June 2007, MWD adopted a proposed framework entitled "Metropolitan's Delta Action Plan." That framework identified short-, mid- and long-term conditions in the Delta, alternatives to mitigate potential supply shortages, and long-term solutions. In December 2007, the MWD Board will consider a strategy and work plan to update its long-term Integrated Resources Plan. The updated IRP will address potential supply vulnerabilities, including climate change and Endangered Species Act obligations. According to MWD's October 2007 IRP Implementation Report, MWD's supplies from the SWP may be reduced by as much as 22% in 2008 and beyond. A 22% reduction in SWP supplies would translate to a 16% reduction in its total supplies. Thus, IRWD has analyzed the potential for a 16% reduction in response to the City's request regarding the Opportunities Study WSA.

IRWD analyzed a potential 16% reduction in two ways. First, it assumed a 16% reduction in MWD's supply, using IRWD's connected capacity, without any water supply allocation imposed by MWD. Under that scenario, and assuming IRWD's planned groundwater projects, IRWD's supplies would be adequate to serve the Project and other planned demand under normal, dry and multiple-dry years through 2027. Second, IRWD examined a scenario where MWD declares Shortage Stage 2 and imposes a cutback on IRWD's actual usage, as opposed to connected capacity, by 10%. Under that scenario, and again assuming planned groundwater projects, IRWD would have sufficient supply. Each of these scenarios are examined for illustration purposes through all of the five-year intervals of the planning horizon through the year 2027; however, it is likely that the scenarios would be temporary.

Adding to the reliability of IRWD's projections are the following factors:

(1) IRWD has the ability to augment its supply by pumping additional groundwater on a short-term basis if needed. In the reduction scenarios reviewed by IRWD, it is anticipated that other water suppliers who produce water form the Orange County Basin will also experience cutbacks of imported supplies and will increase

groundwater production and that Orange County Water District (OCWD) imported replenishment water may also be cutback. The OCWD's "2005-2006 Engineer's Report on the groundwater conditions, water supply and basin utilization" references a report which recommends a basin management strategy that provides general guidelines for annual basin refill or storage decrease based on the level of accumulated overdraft. It states, "an accumulated overdraft of 500,000 AF is only acceptable for short durations due to drought conditions…and an optimal basin management target of 100,000 AF of accumulated overdraft provides sufficient storage space to accommodate increased supplies from one wet year while also providing enough water in storage to offset decreased supplies during a two- to three-year drought" MWD replenishment water is a supplemental source of recharge water and OCWD estimates other main supply sources for recharge are available.

(2) IRWD has the ability to reduce demand if necessary by imposing measures pursuant to its shortage contingency as described in IRWD's Urban Water Management Plan.

(3) IRWD's analysis is conservative because MWD continues to make progress on augmenting its supplies with transfers, groundwater storage, and development of local resources and supplies that will be available in the long-term, and such future supplies are not assumed in the analysis described above.

Thus, based on the information summarized above, the information provided in the WSA and reported in the Draft PEIR remains sufficient to analyze potential water supplies for the Project pursuant to California Water Code section 10910. Further, all available information indicates that water supplies will be sufficient to supply the Project and other projected demand through build-out.

## Potable Water Demand Calculations

The Draft PEIR Section 3.15 and Table 3.15-6 listed the anticipated potable water demand for the Proposed Project. The analysis of each Alternative quantified the difference in potable water demand as compared to the Proposed Project. The water demand calculations in the Draft PEIR were based on a Utility Study (Draft PEIR Appendix J) which used conservative estimates to forecast water demand.

The Irvine Ranch Water District (IRWD) is the water utility that serves the Opportunities Study Area. IRWD provided revised potable water demand estimates in November 2007. Table 7.2.7-1 provides a comparison of the potable water demand estimated in the Draft PEIR with the potable water demand estimates provided by IRWD. In most cases the IRWD demand calculations estimate lower water usage than estimated in the Draft PEIR. This new information does not alter the conclusions of the Draft PEIR.

~~Table 7.2.7-1~~

~~Total Potable Water Demand (gpd)~~

| | ~~Draft PEIR~~ | ~~IRWD Calculations 11/2007~~ | ~~Difference~~ | ~~% change~~ |
|---|---|---|---|---|
| ~~Proposed Project~~ | ~~2,034,728~~ | ~~1,853,055~~ | ~~-181,673~~ | ~~-9%~~ |
| ~~Alternative 1~~ | ~~597,990~~ | ~~757,148~~ | ~~159,158~~ | ~~27%~~ |
| ~~Alternative 2~~ | ~~1,891,928~~ | ~~1,597,661~~ | ~~-294,267~~ | ~~-16%~~ |
| ~~Alternative 3~~ | ~~1,873,228~~ | ~~1,680,304~~ | ~~-192,924~~ | ~~-10%~~ |
| ~~Alternative 4~~ | ~~1,887,478~~ | ~~1,639,804~~ | ~~-247,674~~ | ~~-13%~~ |
| ~~Alternative 5~~ | ~~2,376,298~~ | ~~1,982,794~~ | ~~-393,504~~ | ~~-17%~~ |
| ~~Alternative 6~~ | ~~2,207,978~~ | ~~1,915,734~~ | ~~-292,244~~ | ~~-13%~~ |
| ~~Alternative 7~~ | ~~1,748,530~~ | ~~1,642,109~~ | ~~-106,421~~ | ~~-6%~~ |

Revised Table 7.2.7-1

Total Water Demand (gpd)

| | *Potable* | *Irrigation* | *Total* |
|---|---|---|---|
| Proposed Project | 1,853,055 | 603,390 | 2,456,445 |
| Alternative 1 | 757,148 | 974,075 | 1,731,223 |
| Alternative 2 | 1,597,661 | 604,570 | 2,202,231 |
| Alternative 3 | 1,680,304 | 598,970 | 2,279,274 |
| Alternative 4 | 1,639,804 | 600,970 | 2,240,774 |
| Alternative 5 | 1,982,794 | 507,955 | 2,490,749 |
| Alternative 6 | 1,915,734 | 682,650 | 2,598,384 |
| Alternative 7 | 1,642,109 | 531,190 | 2,173,299 |
| Source: IRWD 11/16/2007 | | | |

# 7.3 ALTERNATIVES CONSIDERED SINCE THE DRAFT PEIR

## 7.3.1 Introduction

The Opportunities Study Area (OSA) Draft PEIR is a program-level EIR which analyzes the impacts of a proposed General Plan Amendment and Zone Change to address a change in land use from predominantly commercial/industrial uses to residential, commercial and civic uses. How exactly those land uses are configured within each of the covered properties is not addressed as part of this PEIR as that is a level of analysis that is more appropriate to a project-level analysis when specific issues of site design and property-specific planning can be conducted.

The alternatives analyzed in the Draft PEIR vary the density for the program as a whole, rather than for specific sites, because Draft PEIR is a program-level document. In general, the alternatives are designed to help the City's decision makers select from among the competing facilities locations, and to understand the relative impact of the alternative locations. The decision-makers have the option to reduce project densities, however, substantial density reductions would be required to reduce all of the

significant unmitigatible impacts to less than significant and a revised project which accomplished this level of impact reduction would not meet the objectives of the project.

Although substantially reduced project alternatives would not achieve the key objectives of the project, the City's decision-makers have the option, as part of their consideration of the program, to consider modifications to the proposed project that would not result in additional impacts, beyond those analyzed in the environmental document for the program. Based on input received since the Draft PEIR was released, the City has developed a seventh project alternative which includes a public facilities configuration not previously analyzed and reduces the residential densities on two of the six project sites.

### 7.3.2 Alternatives Considered and Rejected

Following the public comment period on the Draft PEIR, staff considered the feasibility of alternatives that included new combinations of public facilities locations on the participating properties, as well as potential development of public facilities on existing County open space. These alternatives were narrowed based on their ability to provide the desired level of public facilities, with the potential to reduce residential and commercial densities, while meeting project objectives.

Several alternatives were considered which utilized the existing County open space for a portion of the proposed public facilities. However, these alternatives were not considered for further evaluation because the Proposed Project must meet its parkland dedication requirements under Title 7, Subdivisions, of the Lake Forest Municipal Code. These alternatives would not be able to meet the minimum standards for parkland dedication because the County open space to be utilized for public facilities is already in the City's inventory of parks and open space.

Other alternatives were considered which reconfigured the public facilities, but did not achieve any reductions in residential or commercial densities and, as a result, did not reduce any of the significant unavoidable impacts of the Proposed Project. However, one potential alternative was developed which altered the location of the public facilities and reduced residential and commercial densities, as discussed below. This alternative is reviewed as Alternative 7.

### 7.3.3 New Hybrid Alternative

As summarized above, the City conducted a feasibility analysis of additional potential alternatives. Analyses considered the likelihood that the property could be acquired, the market value of the property, the ability to provide the entire 45 acre public facilities package, financial implications, and timeline during which the facilities could be completed. Ultimately, an alternative was developed that included a reconfiguration of the public facilities and a reduction in density. This alternative involves the proposed use of portions of three of the sites for the proposed public facilities, it involves an overall reduction in the intensity of the program by eliminating residential on Site 4, reducing the overall number of residential units and commercial development on Site 2, and increasing the total acreage devoted to public facilities.

## 7.4 ALTERNATIVE 7: HYBRID ALTERNATIVE - DEVELOPMENT ON SITES 1 THROUGH 6 WITH NO DEVELOPMENT ON SITE 7 AND PUBLIC FACILITIES OVERLAY ON SITE 9

### 7.4.1 Description

Alternative 7 is a reduced density alternative that reduces the total number of residences and commercial uses and increases the amount of public facilities as compared to the Proposed Project. This alternative would allow up to 4,738 residential units, 360,000 square feet of commercial uses, and 73 acres of public

facilities. This alternative includes the Proposed Project development on Sites 1, 5, and 6 as described in the Draft PEIR and assumes the following for the remaining sites[4]:

- Site 2: 930 dwelling units, 40,000 square feet of commercial uses, 8 acres of neighborhood park
- Site 3: 833 dwelling units, 7 to 10 acres of public facilities
- Site 4: 50 acres of public facilities
- Site 7: No change to existing conditions
- Site 9: 13 acres of public facilities

Figure 7.4-1 depicts the location of the Sites. The total development on Site 2 would be reduced as compared to the proposed Project and would total 930 dwelling units, 40,000 square feet of commercial uses and 8 acres of neighborhood parks. Total development on Site 3 would total 833 multifamily homes and 7 to 10 acres of public facilities. The public facilities on Site 3 are assumed to include a 44,000 square foot community center, a 44,000 square foot city hall on a site totaling 7 acres, and up to 3 acres of active park uses.

This alternative assumes public facility uses for adjacent Sites 4 and 9 including up to 47 acres of sports park and 3 acres for an approximately 30,000 square foot community center on Site 4 and 13 acres of sports park on Site 9. No development would occur on Site 7 under this alternative. The LFTM Program outlined under the proposed Project would be adopted under this alternative, with the modifications noted under traffic below.

In order to implement Alternative 7, the City will create a General Plan overlay on Sites 4 (Baker) and 9 (Rados) and portions of Sites 1 (Shea Baker) and 3 (IRWD). The Public Facilities Overlay designation applies to areas on Sites 3, 4 and 9 which may be acquired by the City for public facilities and on Site 1 which may be acquired by Saddleback Valley Unified School District for school use. The underlying land use designation with the proposed General Plan Amendment represents the planned uses of the land should public facilities not occur at these locations in whole or in part. The public facilities overlay is placed on properties with General Plan Land Use designations that would allow public facilities and parks. The intent of this overlay is to indicate potential sites for future public facilities, government buildings, schools, and community parks. The DEIR analysis assumes the following areas will receive the Public Facilities Overlay, as shown on **Figure 7.4-1**.

- Site 1: 10 acres for school or other public facility
- Site 3: up to 10 acres for community center, city hall, and active park
- Site 4: 50 acres for community center and active sports park
- Site 9: 13 acres for active sports park

[4] All acreage calculations used in this section are based on gross site acreage.

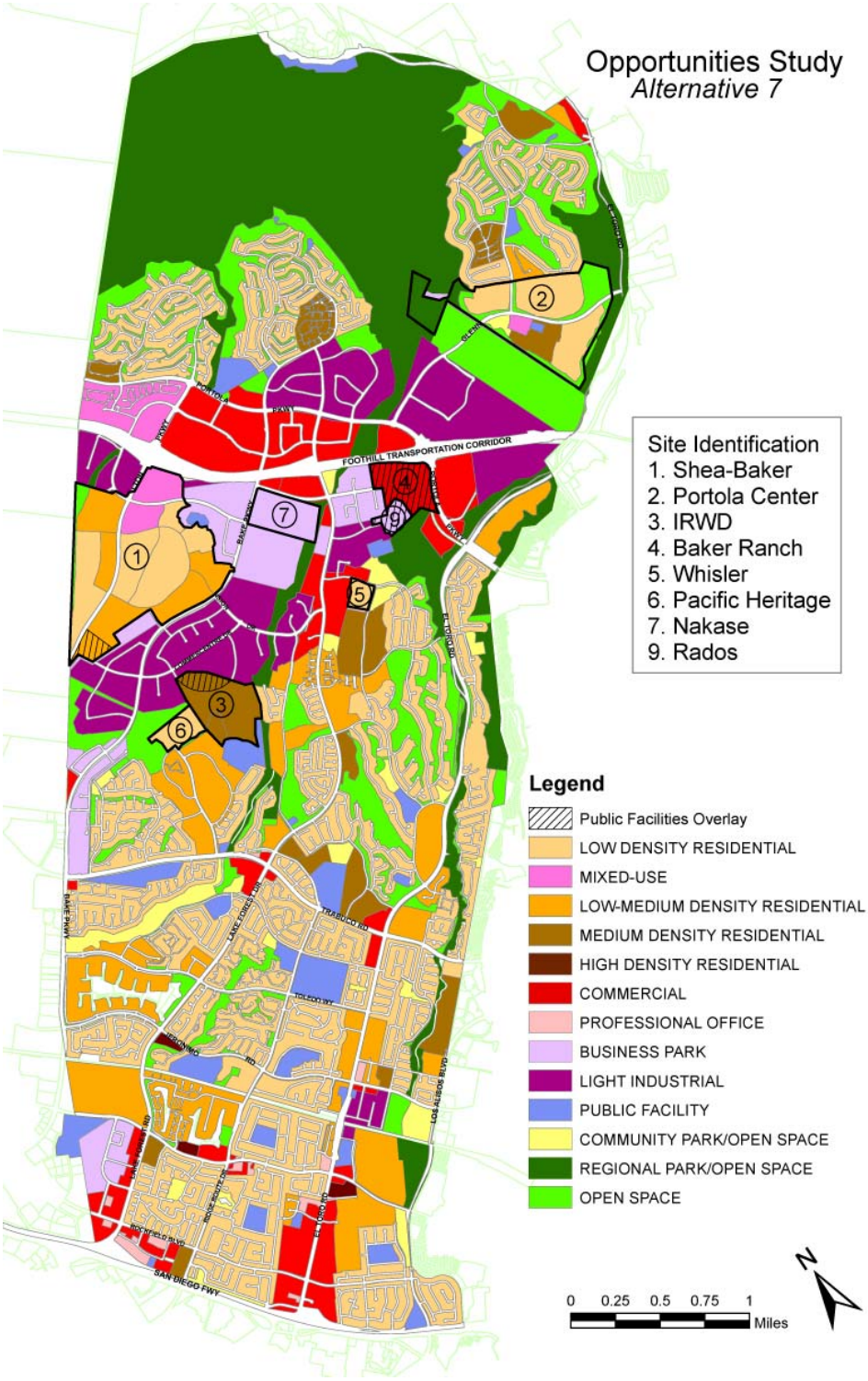


Figure 7.4.1 Alternative 7 Land Use Map

| Table 7.4-1 Alternative 7 Summary | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Site* | *Gross Site Area* | *Total Net Site Area* | *Max. # of Units* | *Total Comm'l. SF* | *Total Indus-trial SF* | *Park (acres)* | *Public Facilities* |
| Site 1 | 387 | 329 | 2,815 | 320,000 | 0 | 25 | 0 |
| Site 2 | 243 | 164 | 930 | 40,000 | 0 | 8 | 0 |
| Site 3 | 82 | 49 | 833 | 0 | 0 | 3 ~~7~~ | 7 ~~10~~ |
| Site 4 | 50 | 45 | 0 | 0 | 0 | 0 | 50 |
| Site 5 | 13 | 12 | 75 | 0 | 0 | In-lieu fees | 0 |
| Site 6 | 18 | 18 | 85 | 0 | 0 | In-lieu fees | 0 |
| Site 9 | 13 | 10 | 0 | 0 | 0 | 0 | 13 |
| *Subtotal* | *806* | *627* | *4,738* | *360,000* | *0* | *40* | *73* |

## 7.4.2 Impacts

### Existing Conditions on Site 9

Site 9 comprises approximately 13 acres of land within the central portion of the project site. The site lies immediately south and adjacent to Site 4. Surrounding land uses include light industrial complexes to the west, gravel mining operations to the north and east, and undeveloped areas to the south. The site is vacant undeveloped land.

The existing conditions on sites 1-6 and 9 are fully described in the Draft PEIR. The description of existing conditions on Site 9 is repeated herein as found I Chapter 4.9.2 of the Draft PEIR.

### Aesthetics

Existing views from Site 4 are as described above under Alternative 3. Views from Site 9 include the Santa Ana Mountains, urban development in adjacent areas, and some open space areas.

Alternative 7 proposes a sports park located on Sites 4 and 9. The sports park on Site 4 would replace the residential and commercial uses contemplated under the Proposed Project. Site 3 would be used for the City Hall and Community Center components with up to 3 acres used for an active park. Development of the project sites with residential uses, commercial, and public facilities would be compatible with surrounding development in building mass and height. While development would change the character of the sites from undeveloped to developed, it would not substantially degrade the visual quality of the Project Area by detracting from the overall image of the City, cause building incompatibility with surrounding uses, or create building mass that conflicts with the character of surrounding development. The placement of the public facilities would be compatible with surrounding development and would be designed to blend architecturally with all surrounding development. All development would be required to conform to General Plan policies and design guidelines, which would ensure that architectural style and design features would be compatible with surrounding development. In addition, specific development proposals would be subject to the City's design review process, which

would further ensure compatibility with surrounding architectural styles. Alternative 7 would be required to comply with the Municipal Code regulations for screening outdoor uses and materials.

Development of the community facilities on Site 3 are not anticipated to block any views of the surrounding area or the Santa Ana Mountains, as such facilities are not anticipated to be greater than two stories and would have a footprint of approximately 7 acres. Construction of the sports park on Site 4 would be anticipated to result in less obstruction of scenic views than residential or commercial development, and scenic views of the mountains and open space would remain from the sports park as well as other portions of the site. Therefore, development of the community facilities identified for Alternative 7 would not significantly change the type of development in terms of height, and would, therefore, not significantly obstruct existing viewsheds. Development of the sports park on sites 4 and 9 would not result in any negative aesthetic impacts to views from the Tollway, due to the park use. At night, lighting from the sports park may be briefly visible from the Tollway, but this brief change in viewshed is not anticipated to be significant. Other lighting sources from commercial properties, Etnies Skatepark and Trabuco Hills High School are visible from the Tollway. The public facilities overlay on Sites 3, 4 and 9 would result in a less-than-significant impact on obstruction of viewsheds or scenic views. Further, no changes to viewsheds on Site 7 would occur, as no development would occur on that site under this alternative. This Alternative would impact views from El Toro Road similar to the Proposed Project. This impact would be less than significant, as identified for the Proposed Project.

With regard to light and glare impacts, there would be security and parking lot lighting provided for the Civic Center and Community Center on Site 3. Light fixtures would be shielded and appropriately placed so as to minimize light spill and glare onto sensitive land uses. However, even with implementation of the mitigation measures identified for the Proposed Project, this impact would remain significant and unavoidable. Similarly, glare produced by exterior building surfaces and expanses of glass would not impact sensitive uses, but would remain significant and unavoidable, as under the Proposed Project. The sports park lighting on Site 4 would occur in an area surrounded by commercial uses, a tollroad, and County open space and impacts for Site 4 would be similar to the Proposed Project. The sport park lighting on Site 9 would be in an area in which would not impact sensitive land uses. Nearest residential uses are 1,000 to 1,500 feet from the site and thus adequately buffered. No light and glare impacts would occur on Site 7, as no development would occur on this site under this alternative. However, when considered in conjunction with the other development proposed on Sites 1 through 6 and 9, the impacts from light and glare would remain significant and unavoidable, as most of the Sites are currently vacant and do not contain substantial sources of light and glare.

The community facilities would be subject to the same policies, plans, and design standards applicable to the remainder of the development, and therefore the impact with respect to consistency with these plans and policies would be less than significant, similar to the Proposed Project.

## Agricultural Resources

Similar to the proposed project, implementation of Alternative 7 would convert Site 1, which is presently designated by the FMMP as prime and unique farmland from agricultural to residential, commercial, and public facilities uses. Although not all of the land is currently being used for agricultural production, the

loss of approximately 387 acres of prime and unique agricultural land is considered a substantial and significant conversion. The conversion of Site 1 from agricultural to residential, commercial, and public facilities uses would result in a reduction of the total amount of these farmland types within the County by approximately 2.6 percent. In addition, the conversion of this land could result in the elimination of approximately 76 percent of the prime and unique farmland within the City's boundaries. Similar to the Proposed Project, even though the agricultural conversion of Site 1 was previously evaluated and was subject to the County's Statement of Overriding Considerations in at least one previous EIR (notably the 1982 General Plan and zone change EIR for the Baker-Salvatori Group [SCH#81121811]), when Site 1 was under the County of Orange's jurisdiction, the loss of prime and unique farmland on Site 1 that would result from implementation of Alternative 7 is still considered significant and unavoidable. However, because Site 7 would not be developed, less prime and unique farmland would be converted to non-agricultural uses as compared to the proposed project. As such, this impact for Alternative 7 would be less than the Proposed Project.

Implementation of Alternative 7 would convert Sites 3 and 5, which represent a total of approximately 95 acres and are presently zoned for agricultural uses to allow urban development. If the proposed future development were to occur under the existing zoning designations, the development would conflict with zoning for agricultural use. Implementation of Alternative 7 would be required to specifically amend the existing General Plan and zoning designations for the Project Area. Consequently, implementation of Alternative 7 would conflict with zoning for agricultural uses, and impacts would significant and unavoidable, similar to the Proposed Project.

Approximately 199 acres on Sites 1 and 3 have been used for agricultural operations. Specifically, although not presently zoned for agricultural uses, Site 1 contains approximately 174 acres of existing agricultural activities, while Site 3, which is zoned for agricultural uses, contained approximately 25 acres of row crops at the time the NOP was issued, but has not been used for agricultural purposes for the past 2-3 seasons. Implementation of Alternative 7 would result in the conversion these two sites which are either currently used as farmland or zoned for agricultural use to urban uses. The development of this Alternative 7 on Sites 1 and 3 would not result in other changes in the existing environment that could result in the conversion of farmland to non-agricultural use on areas other than within the Project Area. Site 1 is already surrounded by land, which was formerly farmed, but has been converted to commercial, industrial and retail uses. Where adjacent open space exists to the west of Site 1, that land (on the former MCAS El Toro) has already been designated for habitat conservation. Site 3 is similarly located in an urban environment and its development would not necessarily result in other farmland in the City being converted to nonagricultural uses. Sites 2, 4, 5 and 6 are also located within developed or urbanizing areas and the development of these sites would not create additional pressures on other Farmland areas to convert to nonagricultural uses. As no development would occur on Site 7, this impact would be less than significant, and less than the Proposed Project, which proposes development on Site 7.

## Air Quality

Under Alternative 7, 7 to 10 acres of land on Site 3 would be used for an active park, Community Center and City Hall, 50 acres of land from Site 4 would be used for a sports park and 13 acres of land from Site 9 would be utilized for a sports park. To accommodate the public facilities on Site 4, the 475 residential

units and 150,000 sf of commercial uses that were initially proposed on the site under the Proposed Project would be eliminated. To accommodate the public facilities on Site 9, the 200,000 sf of business park uses that could be accommodated without the Proposed Project would also be eliminated on this site. The 1,132 dwelling units proposed on Site 2 would be reduced to 930 dwelling units and the 178,720 square feet of commercial uses would be reduced to 40,000 square feet. The other land uses originally proposed on Sites 1, 5, and 6 under the Proposed Project would remain the same. No development on Site 7 would occur under this alternative. When compared with the Proposed Project, implementation of Alternative 7 would result in a net reduction of 677 residential units in the Project Area and 288,720 square feet of commercial use.

Implementation of Alternative 7 would result in less overall development in the Project Area than the Proposed Project. As such, the overall emissions generated under this alternative would also be less than the Proposed Project. Thus, because the overall emissions generated in the Project Area under Alternative 7 would be less than the Proposed Project, and implementation of the Proposed Project would not impair implementation of the AQMP (as discussed under Impact 3.3-1 under the Proposed Project), implementation of Alternative 7 would also not impair implementation of the AQMP. This impact would be less than significant, and would be less than the Proposed Project.

Both construction and operational emissions generated from development under the Proposed Project would result in significant and unavoidable impacts. In terms of construction emissions, because construction emissions for an individual project typically exceeds the SCAQMD's recommended thresholds of significance and results in short-term air quality impacts, the impact of the Proposed Project, which takes into consideration the construction emissions generated from all of the development on the Sites of the Project, is anticipated to be significant and unavoidable. Although implementation of Alternative 7 would result in a net reduction of 677 residential units in the Project Area and 288,720 square feet of commercial use, total construction emissions generated within the Project Area from all the development proposed under Alternative 7, when considered in whole, would still exceed the SCAQMD's recommended thresholds of significance for individual projects. As such, although the impact associated with construction emissions for Alternative 7 is anticipated to be less in magnitude than the Proposed Project, it would remain significant and unavoidable.

The estimated daily operational emissions generated from both stationary and mobile sources resulting from development under the Proposed Project would exceed the SCAQMD recommended thresholds of significance for CO, VOC, NOx, and $PM_{10}$. Although implementation of Alternative 7 would result in a net reduction of 677 residential units in the Project Area and 288,720 square feet of commercial use when compared to the Proposed Project, the overall operational emissions generated by development under this alternative in the Project Area, when considered in whole, would not be substantially lower than the Proposed Project. Although the overall operational emissions would be lower than the Proposed Project, the impact associated with operational emissions for Alternative 7 would remain significant and unavoidable.

As discussed above, both construction and operation related daily emissions associated with the development projects that are planned to occur in the Project Area under Alternative 7 are anticipated to exceed SCAQMD significance thresholds for criteria pollutants for which the Basin is in nonattainment.

Under this condition, the development proposed by Alternative 7 would also make a cumulatively considerable contribution to these criteria pollutants. Therefore, this impact is anticipated to be significant and unavoidable. Because less overall development would occur in the Project Area under this alternative than the Proposed Project, this impact for Alternative 7 would be less than the Proposed Project.

As the growth envisioned under the Proposed Project in the Project Area would not generate CO concentrations that would exceed the national and state ambient air quality standards, and thus would result in a less-than-significant impact, this impact would be of an even lesser magnitude for Alternative 7, which has less overall development than the Proposed Project.

As discussed in Impact 3.2-5 under the Proposed Project, implementation of the Proposed Project would not create objectionable odors affecting a substantial number of people, and the impact was determined to be less than significant. As implementation of Alternative 7 would result in a net reduction of 677 residential units in the Project Area and 288,720 square feet of commercial use when compared with the Proposed Project, the total amount of emissions generated under this alternative would also be less than that of the Proposed Project. However, residential uses are not considered to be sources of objectionable odors. Therefore, while implementation of Alternative 7would not create objectionable odors affecting a substantial number of people, and would result in a less-than-significant impact, this impact would be similar in magnitude to the Proposed Project.

In April 2005, the California Environmental Protection Agency, California Air Resources Board issued: "Air Quality And Land Use Handbook: A Community Health Perspective." It contains "ARB recommendations regarding the siting of new sensitive land uses near freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities." According to the ARB: "Because living or going to school too close to such air pollution sources may increase both cancer and non-cancer health risks, we are recommending that proximity be considered in the siting of new sensitive land uses."

For freeways and high traffic roadways, the ARB makes the following recommendation: "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day." According to the Orange County Transportation Authority (OCTA) Annual Traffic Volume Map for 2006, the SR-241 toll road along the edge of Site 4 is carrying 47,000 vehicle trips per day. ARB's threshold for it's recommended siting restriction for freeways and sensitive land uses is thus not met.

## Biological Resources

Site 9 has been almost completely graded and contains very little native vegetation. The coastal sage scrub habitat present on the site is of very low quality and has been highly disturbed. The use of this site for a portion of the community facilities overlay would result in less-than-significant impacts to sensitive habitat (the sage scrub). The California Natural Diversity Database (CNDDB) reports coastal California gnatcatcher and southern California rufous-crowned sparrow were identified near this location (CNDDB 2005). However, current habitat conditions are not suitable to support either of these species. Impacts to existing vegetation on Sites 1-7 were previously discussed and considered in the Draft PEIR. The change

in uses under this Alternative does not affect the impacts previously described for these site 1-6 in the Draft PEIR. When the three locations (Site 3, Site 9 and Site 4) are considered together it is expected that there would be a less-than-significant impact to biological resources from implementation of the public and community facilities overlay on a combination of Sites 3, 9 and 4.

Implementation of Alternative 7 would result in the conversion of habitat that is suitable for multiple sensitive species, including but not limited to the horned lark, orange-throated whiptail, coastal California gnatcatcher, Southern California rufous-crowned sparrow, and coastal cactus wren. Alternative 7 would also involve the removal of sensitive habitats such as coastal sage scrub, chaparral, needlegrass grassland, riparian vegetation, and would result in substantial adverse effect on federally protected wetlands, as defined by Section 404 of the CWA similar to the Proposed Project. The Draft PEIR contains mitigation measures MM3.4-1 to MM-3.4-5 which address impacts to sensitive species and habitats. These mitigation measures would also be required for Alternative 7, including Site 9. The mitigation measures apply to both city and private development on the project sites. Development of the Project Area under this alternative would increase the number of nighttime-site light sources throughout the Project Area. If unchecked, this light, where proximal to natural areas, could adversely impact the wildlife. Implementation of MM 3.4-5 would reduce the potential effects of nighttime illumination by focusing sources of light away from greenbelts and riparian corridors to preserve the nighttime integrity of these movement corridors.

As with the Proposed Project, implementation of this alternative would conflict with the General Plan Policy 2.1 as it relates to non NCCP covered species and resources, requiring the conservation and protection of sensitive biological resources. The loss of sensitive habitat and wetlands, along with the loss of habitat required by sensitive species would be considered a substantial adverse effect and is therefore considered a potentially significant impact of this alternative. As with the Proposed Project, mitigation measures MM 3.4-1 through 3.4-5 shall be implemented as applicable, thereby allowing the City to conserve and protect natural plant and animal communities as required by General Plan Policy 2.1 and would reduce the level of project-related impacts to a less-than-significant level.

Although the sites under this alternative are outside the Reserve System implemented by the NCCP/HCP in 1996, just as the buildout of the Proposed Project would be required to comply with the NCCP/HCP (see, e.g., mitigation measure 3.4-2), buildout under Alternative 7 would also be required to comply with the NCCP/HCP. Thus, neither Alternative 7 nor the Proposed Project would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Biological Resources impact analysis and conclusions of the Proposed Project would apply to Alternative 7 (Impact 3.4-1 through Impact 3.4-6). Not placing Public Facilities on 45 acres of Site 7 would not result in a reduction in impacts to biological resources compared to the Proposed Project as this site is entirely a commercial nursery and supports no significant biological resources. Impacts of this Alternative may be greater than the proposed project due to the undeveloped and ungraded nature of Site 9. However, the corresponding mitigation measures identified within Section 3.4 would be required to mitigate for the impacts of this alternative to biological resources, and would result in less-than-significant post-mitigation impacts for this alternative (MM 3.4-1 through MM 3.4-5).

## Cultural Resources

No historical resources have been identified in the Project Area. As with the Proposed Project, no historical resource impacts would occur under this alternative.

As under the Proposed Project, ground-disturbing construction activities under this Alternative could potentially encounter sensitive archaeological and paleontological sites, including unknown human burial sites, resulting in potentially significant impacts. As with the Proposed Project, implementation of Mitigation Measures 3.5-1 to 3.5-8 would reduce impacts to archaeological, paleontological, and unknown human remains to less than significant.

## Geology/Soils and Mineral Resources

This alternative would result in less total development and a change in location of community facilities compared to that proposed under the Proposed Project. Geologic conditions on Site 9 do not differ substantially from conditions on other Project Area sites. Thus, this alternative would not affect the magnitude of impacts on geologic resources. Similar to the Proposed Project, no construction would occur in a known Earthquake Fault Zone. Although less total development would occur, persons and structures would be similarly exposed to potential substantial adverse effects as a result of strong seismic groundshaking, seismic-related ground failure, liquefaction, lateral spreading, subsidence, and landslides. Compliance with regulatory processes, including the City Building Code, would ensure that impacts would be less than significant, similar to the Proposed Project

Construction would not expose the drainage systems downslope to substantial soil erosion or the loss of topsoil. As less total area would be disturbed under this alternative relative to that which could occur under buildout of the Proposed Project, the area exposed to erosion impacts would be less than the Proposed Project. Further, as Site 9 would also change from vacant to community facilities, existing erosion from the site would be reduced due to the requirement that any development on the site comply with the City Building Code and the National Pollutant Discharge Elimination System permitting processes. Given this, any development on the site would not have significant impacts on geology, soils, or mineral resources.

This alternative could locate structures on a geologic unit or soil that is potentially unstable or expansive, similar to the Proposed Project. Although fewer structures would be built under this alternative, those structures that are built would be exposed to the same geologic and soil risks as those associated with the Proposed Project. Compliance with the City Building Code would reduce this potential impact to a less-than-significant impact.

Development under this alternative would be served by existing wastewater treatment facilities, however additional wastewater collection and conveyance facilities would be necessary on the individual project Sites. Because no septic systems or alternative wastewater disposal systems would be installed, there would be no impact.

This alternative would not result in the loss of availability of a known mineral resource or locally important mineral resource site. Cessation of mineral resource recovery operations would occur on Site 4. Because the existing aggregate mine on Site 4 would be reclaimed in advance of buildout of the Proposed Project or this Alternative 7, no loss of resources would occur. Similarly, adjacent Site 9 contains the same mineral resources as Site 4. Use of the site would not result in the loss of mineral resources. Neither the Proposed Project nor Alternative 7 would result in the loss of availability of a known mineral resource. Thus, no impact will occur under Alternative 7.

## Hazards and Hazardous Materials

Implementation of Alternative 7 would result in similar impacts as those discussed for Impact 3.7-1 through Impact 3.7-8 discussed above for the Proposed Project. Construction of the sports park, civic center, community center, and residential units would have similar impacts related to hazards and hazardous materials as those associated with the development of businesses and public facilities that could be developed as part of any of the project alternatives. With implementation of MM 3.7-1, and adherence to Title 26 of the California Code of Regulations (CCR), Chapter 6.95 of the California Health and Safety Code, and regulations that apply to workplace safety contained in CCR Title 8, Alternative 7 would not result in any significant hazards to the public or the environment associated the routine transportation, use, or disposal of hazardous materials, nor would it result in the release of hazardous materials into the environment during construction. Implementation of Alternative 7 would not create a significant hazard to the public or the environment through upset or accident conditions involving the release of hazardous materials with continued adherence to applicable federal, state, and local laws, and implementation of the County's Hazardous Materials Area Plan, Landfill Load Checking Program, Orange County Integrated Waste Management Department Household Hazardous Waste Program, the City's Emergency Preparedness Plan, and the City's Household Hazardous Waste Element. The Proposed Project is located within an area that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (SWIS-listed Site 1). Sites 3, 4 and 9 are not located within one-quarter mile of an existing school. None of the sites is located within two miles of an airport or private airstrip. With implementation of MM 3.7-3 through MM 3.7-5, development of the Sites 3, 4 and 9 Overlay would not interfere with any adopted emergency response plan or emergency evacuation plan, and would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Compliance with all federal, state, and local laws pertaining to hazards and hazardous materials, and implementation of the appropriate mitigation measures would reduce the potential impacts associated with the implementation of Alternative 7 related to hazards and hazardous materials to a less-than-significant level.

## Hydrology/Water Quality

Implementation of Alternative 7 would result in slightly more runoff when compared to the Proposed Project; overall runoff coefficients are slightly higher. Runoff rates would not increase above the pre-development condition and the 100-year floodwater surface elevation would not increase by one-foot or more. Public facilities would be subject to Mitigation Measure 3.8-4 under this alternative, as would the proposed project. This mitigation measure requires use of Best Management Practices and a pesticide

management program. Therefore, stormwater quality constituents would be similar. Impacts associated with this alternative would not be significantly different from those associated with the Proposed Project and with implementation of mitigation measure MM 3.8-1, impacts to downstream flooding would be less than significant.

As with the proposed Project, drainage patterns may be altered; however, with implementation of MM 3.8-1 potential impacts would be reduced to below significance, as it requires project developers to provide a Water Quality Management Plan (WQMP) prior to grading.

Groundwater resources would not be significantly degraded or depleted and recharge potential would not be reduced as compared to the proposed Project. Additionally, groundwater flow, rate, or direction would not be changed because there will be no additional wells and no impacts on groundwater recharge and surface water infiltration. Water quality standards may be exceeded for certain constituents and may result in an increase in pollutants listed as impairments for which San Diego Creek and Aliso Creek are listed. With implementation of mitigation measures MM 3.8-1 through MM 3.8-5, this alternative's impact on water quality would be reduced; however, levels may still remain significant and unavoidable.

Although not a component of Alternative 7, it should be noted that the County has approved through the Alton Parkway Extension project, bank protection improvements for that segment of the Borrego Wash that traverses through Site 1. As described in Section 7.2.4, above, a bypass channel is proposed to be constructed parallel to the alignment of Borrego Canyon Wash in which storm flows will be diverted thus minimizing existing conditions of erosion and sedimentation that currently exist in the Wash.

## Land Use/Planning

Minor inconsistencies would occur between this Alternative and the existing applicable land use plans governing development of the site, similar to that identified for the Proposed Project. Amendments to the General Plan, Zoning Code, and Planned Communities would be undertaken to ensure conformity with the Proposed Project. Similar to the impacts discussed for the Proposed Project, impacts would be less than significant.

Overall changes to the land use character would be similar to that described for the Proposed Project but with less overall development. Land use changes on Sites 1, 5, and 6 would occur as with the Proposed Project. The following changes would occur on the remaining sites:

- Site 2 (Portola Center): 930 dwelling units, 40,000 square feet of commercial uses and 8 acres of neighborhood park rather than the 1,132 dwelling units, 178,720 square feet of commercial uses and 10 acres of neighborhood park under the Proposed Project.
- Site 3 (IRWD): 833 dwelling units and 7 to 10 acres of public facilities (Community Center, City Hall and up to 3 acres of active park) rather than the 833 dwelling units and 11 acres of parkland under the Proposed Project.
- Site 4 (Baker Ranch): 50 acres of sports park rather than the 475 dwelling units, 150,000 square feet of commercial and 4 acres of neighborhood park under the Proposed Project.
- Site 7: No change to existing conditions compared to the 45 acres of public facilities under the Proposed Project.

- Site 9: 13 acres of sports park rather than no development assumed under the Proposed Project.

Mining uses would be completed prior to development on Site 4, and these areas would be used for the sports park. No residential units would be built on Sites 4 or 9. Sites 4 and 9 are adjacent to each other. A sports park would be compatible with adjacent business park and commercial uses. Impacts would be less than significant, and would be less than the Proposed Project.

## Noise

Implementation of Alternative 7 would result in similar impacts as those discussed for Impact 3.10-1 through Impact 3.10-5 for the Proposed Project. Construction of the sports park, civic center, community center, commercial uses, and residential units would have similar noise impacts related to grading and construction activities. While these impacts could expose sensitive receptors to noise levels above established standards, the City of Lake Forest Municipal Code Section 4-6-7(e) allows such activities to be exempt from the Noise Ordinance. Impacts would remain less than significant and similar to the Proposed Project.

Vibration impacts associated with implementation of Alternative 7 would be similar to those associated with implementation of the Proposed Project. As is true for the Proposed Project, the groundborne vibration generated during construction and grading activities would primarily impact existing sensitive uses (e.g., residences and schools) that are located adjacent to or within the vicinity of specific projects in the Project Area. These construction and grading activities could expose sensitive receptors to vibration levels above the Federal Transit Administration's ("FTA") 85 VdB threshold for vibration. MM 3.10-1 would be implemented to require the operation of vibration-generating equipment to be located as far away from vibration-sensitive sites as possible. While implementation of MM 3.10-1 may reduce the magnitude of groundborne vibration levels experienced by nearby sensitive receptors, the possibility exists that these vibration levels may not be reduced to a level below the FTA's 85 VdB threshold. Distance, topography, site lay-out and surrounding uses are all factors that may affect the ultimate level of groundborne vibration levels resulting from specific projects. At the general plan and zoning level of analysis, determination of project-specific impacts is not feasible. However, the development of detailed, site-specific information during the future review of individual development projects in the project area will allow a timely determination of which, if any, projects would expose sensitive receptors to excessive groundborne vibration or groundborne noise levels. Therefore, given the potential for a significant impact, MM 3.10-2 shall require further CEQA review with the submittal of each area plan or tentative map for the Proposed Project, reducing this potential impact at the program stage to a less-than-significant level.

Ambient noise levels resulting from project-generated traffic from implementation of Alternative 7 would be similar to ambient noise levels under buildout of the Proposed Project. While implementation of this Overlay would generate approximately 11,818 fewer average daily trips than the Proposed Project, this difference in daily vehicle trips would likely not result in significantly different impact noise levels on roadway segments within the City of Lake Forest when compared to the Proposed Project. Similar to the Proposed Project, the project-generated traffic resulting from implementation of Alternative 7 would result in a significant increase in permanent ambient noise over existing conditions, although it is not

considered to be a significant increase in noise over Year 2030 buildout of the existing General Plan. This impact would be lesser in magnitude than the Proposed Project.

Implementation of Alternative 7 would not introduce additional stationary noise sources in the Project Area over the Proposed Project. Sites 4 and 9 are located 1,000-1,500 feet from nearby residences and would therefore not be significantly impacted by sports park noise. County property would also buffer the effect of noise from the sports park on residences in the area. Similar to the Proposed Project, new stationary sources of noise such as rooftop heating, ventilation, and air conditioning (HVAC) equipment would be installed on new commercial and office buildings within the City as part of the Proposed Project. Fewer residential units would be developed in the Project Area compared to the Proposed Project, and the amount of commercial development would be less in the Project Area under Alternative 7. As such, the amount of new HVAC equipment that would be installed within the Project Area on new commercial and office buildings would be the somewhat less than the Proposed Project. Therefore, the impact associated with a substantial increase in noise levels generated by stationary sources in the Project Area would be slightly less in magnitude to the Proposed Project. As is true for the Proposed Project, implementation of MM 3.10-3 would reduce the impacts associated with a permanent increase in ambient noise levels resulting from stationary sources to a less-than-significant level. As with the proposed project, this alternative would be subject to the City's noise ordinance.

## Population/Housing

Alternative 7 would result in a total net new development of 4,738 residential units and 360,000 sf of commercial uses on Sites 1 through 6, and assumes up to 10 acres of public facilities (Community Center, City Hall and active park) on Site 3, 47 acres of sports park and 3 acres of community center on Site 4, and 13 acres of sports park on Site 9.

Implementation of the residential uses would result in a population increase of 13,788 persons. In addition, the new employment-generating commercial uses in the Project Area have the potential to result in a population increase of 180 persons in the City. As such, maximum buildout of residential and commercial uses under the Alternative 7 would result in an increase in the City's population of ~~13,968~~ 13,788 persons. With the City's 2005 population of 78,020, the generation of ~~13,968~~ 13,788 persons from Alternative 7 would result in an increase of approximately 18 percent and would exceed SCAG's population projection for the City in 2030. Similar to the Proposed Project, although population increases would exceed projections, the City and County's infrastructure could accommodate the future growth. However, because Alternative 7 would substantially increase population growth within the City (by approximately 18 percent), impacts on population growth would be considered significant. While the impacts of substantial population growth of Alternative 7 would be significant and unavoidable, the impacts would be less substantial than the impacts from development under the Proposed Project because less overall development would occur and fewer residents would be generated.

Future development under Alternative 7 would displace the two single-family dwellings on Site 1 (Shea/Baker) and the single, vacant residential dwelling on Site 5 (Whisler/Greystone) that could necessitate the construction of replacement housing elsewhere, based on conditions at the time the Notice of Preparation (NOP) for the project was issued. It should be noted that the dwelling unit on

Site 5 was subsequently demolished in accordance with applicable regulations. The demolition of existing dwelling units would not, by itself, have a significant impact on the physical environment, provided demolition proceeds in accordance with applicable demolition regulations, including those related to control of particulate matter. However, demolition activities could have a significant impact within the meaning of CEQA if they conflict with SCAG's long-range growth forecast for the City, or with adopted City housing policies. The three units that could be demolished under Alternative 7 represent a negligible percentage (0.01 percent) of the City's current housing stock. Even if the removal of these three dwelling units were permanent (i.e., not replaced as new units are constructed in the City), the reduction would not alter SCAG's 2000–30 household forecast for the City. In addition, although the three dwelling units would be removed, the new residential units that would be developed under implementation of Alternative 7 would be more than adequate to compensate for the initial loss of the existing dwelling units on Sites 1 and 5. Therefore, similar to the Proposed Project, impacts related to the displacement of existing housing or people in the Project Area would be less than significant. The jobs/housing balance in the City would be improved, similar to the Proposed Project.

## Public Services

### *Police and Fire*

Similar to the Proposed Project, emergency/security services could be required periodically at individual construction sites. Construction sites are typically fenced and have security personnel onsite. As such, the impact to emergency services during construction activities would be short-term in nature and less than significant.

Operation of a development of this scale would lead to an increased demand for local emergency services, including police and fire. Impacts associated with development of this alternative in conjunction with the Proposed Project would be similar in scale to those incurred under the Proposed Project (See Impact 3.12-1). As such, operational impacts to emergency services would be less than significant with mitigation (see MM 3.12-1 through MM 3.12-3).

### *Schools*

Under Alternative 7, approximately 4,738 residential units would be constructed resulting in a potential increase of 1,788 students in local SVUSD schools, approximately 166 fewer students than under the Proposed Project. It should be noted that the public facilities overlay alone would not increase student enrollment in the area, however, in combination with the residential development at Sites 1 through 6 included as part of this alternative, student enrollment would increase; however, as noted in the Draft PEIR, the SVUSD overall has been experiencing declining enrollment. The potential school site mentioned under Impact 3.12-2 and in Chapter 2, if built, would alleviate some of the increase in student population resulting from the OSA, but not all. The payment of appropriate statutory school fees by developers in the Project Area at the time of issuance of building permits to the SVUSD to assist in funding efforts necessary to alleviate school overcrowding (MM 3.12-3) would reduce this impact to a less-than-significant level. Alternatively, a negotiated agreement that results in the same or greater levels

of funding for SVUSD, as discussed above in section 7.2.2, would also reduce impacts to a less than significant level. Therefore, impacts would be similar to the Proposed Project.

### *Libraries*

With implementation of Alternative 7, approximately 4,738 residences would be constructed within the limits of the City of Lake Forest. This would represent an additional demand for 2,793 sf of library space and 20,952 volumes in the Project Area, less than that of the Proposed Project. It should be noted that the public facilities overlay alone would not increase demand for library services in the area, however, in combination with the residential development at Sites 1 through 6 included as part of this alternative, the demand for library facilities/services would increase. Most, if not all, of this demand would be assumed by the County library system. According to the County, such an increase would cause existing service levels to drop below the performance standards mentioned previously (0.2 sf and 1.5 volumes per capita). Further, no additional library facilities are currently planned in the area that would mitigate the increased demand. Implementation of MM 3.12-4, requiring payment of library impact fees, would reduce this impact to a less-than-significant impact, the same as for the Proposed Project.

## Recreation

Alternative 7 would result in the following differences from the proposed project:

- Site 2 (Portola Center): 930 dwelling units, 40,000 square feet of commercial uses and 8 acres of neighborhood park rather than the 1,132 dwelling units, 178,720 square feet of commercial uses and 10 acres of neighborhood park under the proposed project.
- Site 3 (IRWD): 833 dwelling units and up to 10 acres of public facilities (Community Center, City Hall and active park) rather than the 833 dwelling units and 11 acres of parkland under the proposed project.
- Site 4 (Baker Ranch): 50 acres of sports park rather than the 475 dwelling units, 150,000 square feet of commercial and 4 acres of neighborhood park under the proposed project.
- Site 7: No change to existing conditions compared to the 45 acres of public facilities under the proposed project.
- Site 9 (Rados): 13 acres of public facilities (sports park) rather than no development assumed under the proposed project.

Thus, development under this alternative would result in 25 acres of parkland on the Shea/Baker site, 8 acres on the Portola site, ~~7-10~~ 3 acres of parkland on the IRWD site, 47 gross acres of sports park on the Baker Ranch site, and 13 gross acres of sports park on the Rados site. It is assumed at this program level of analysis that the Whisler and Pacific Heritage sites would not contain any parkland and that in-lieu fees would be paid; however, neighborhood park facilities may be added at the project level. In addition, trails would be provided that connect to existing trails, connecting the northern portions of the City with southern portions of the City as well as the City to the Great Park, Aliso Beach, and the Pacific Ocean. Thus, this alternative would result in an additional 100 acres of parkland and public facilities within the City of Lake Forest.

Utilizing a factor of 2.91 persons per dwelling unit (stated in Section 3.11, Population and Housing), this alternative's 4,738 residential units would result in a population increase of 13,788 persons within the

City of Lake Forest. Thus, with a population factor of ~~91,488~~ 91,808 (~~existing 77,700~~ 2005 City population of 78,020 plus 13,788 population associated with this alternative) and a park acreage factor of ~~274~~ 308 (existing ~~173.9~~ 199.9 acres of park plus an estimated 108.2 acres of future parks ~~100 acres associated with this alternative~~), implementation of this alternative would result in a parkland/population ratio of ~~2.99~~ 3.35 acres of parkland per 1,000 population within the City of Lake Forest.

Parkland dedication for the Opportunities Study Program will be pursuant to the parkland dedication standards of the Lake Forest Municipal Code as may be augmented by the Opportunities Study Area Development Agreement. This alternative would need to develop a total of 69 acres of parkland in conjunction with its proposed 4,738 residential units to comply with the City's established standard of 5 acres per 1,000 population. Since this alternative proposes uses that would result in a significantly increased City population compared to existing conditions, but would develop adequate parkland to exceed the required parkland dedication standard and increase the overall City-wide parkland ratio to 2.99 acres per 1,000 population, impacts would be less than significant.

## Transportation/Traffic

### *Trip Generation*

The Traffic Study used the Lake Forest Traffic Analysis Model (LFTAM) to analyze the Traffic Analysis Zones (TAZ) in which each of the overlays (Alternatives) would occur. The resulting ADTs, for the Proposed Project and Overlay Plan, in the affected TAZs were compared to identify whether Alternative 7 would result in more or fewer trips and consequently would impact more or fewer intersections, freeway ramps, and mainline segments than the Proposed Project.

### *Impacts*

As can be seen from Table 7.4-2, Alternative 7 includes 677 fewer residential units and 288,720 square feet (sf) less of commercial uses, but more parkland than the proposed project. The total traffic generated under Alternative 7 would be 11,817 fewer daily trips than the Proposed Project. This alternative would result in approximately a 12-percent decrease in total trip generation as compared to the Proposed Project. Therefore, the impacts of Alternative 7 would be somewhat less than, those of the Proposed Project.

**Table 7.4-2 Alternative 7 Land Use and Trip Generation Summary—Alternative 7**

| Land Use | Units | AM Peak Hour | | | PM Peak Hour | | | ADT |
|---|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total | |
| Alternative 7 | | | | | | | | |
| Single Family Detached | 1,520 DU | 290 | 857 | 1,147 | 994 | 551 | 1,545 | 14,642 |
| Condominium | 1,793 DU | 304 | 898 | 1,202 | 807 | 591 | 1,398 | 14,613 |
| Apartment | 1,415 DU | 141 | 581 | 722 | 566 | 311 | 877 | 9,509 |
| Commercial (EQ) | 160 TSF | 167 | 107 | 274 | 475 | 515 | 990 | 11,388 |
| Business Park | 2,042 TSF | 2,450 | 470 | 2,920 | 613 | 2,021 | 2,634 | 26052 |
| Community Facility | 44 TSF | 36 | 7 | 43 | 100 | 108 | 208 | 2,002 |
| Government Facility | 44 TSF | 87 | 11 | 98 | 39 | 87 | 126 | 1,228 |
| Park | 44 acres | 0 | 0 | 0 | 1 | 1 | 2 | 71 |
| Sports Park | 63 acres | 1 | 0 | 1 | 214 | 258 | 472 | 3,389 |
| *Total (using vehicle trip rates below)* | | *3476* | *2,931* | *6,407* | *3,809* | *4,443* | *8,252* | *82,894* |
| *Total Difference Alternative 7* | | | | | | | | *-11,817* |

SOURCE: Austin-Foust Associates, Inc. 2005b – Alternative 7 (Hybrid) Traffic Study (see Appendix ~~N~~ O)

1) The trip rates above and regression equation below have been taken from the Institute of Transportation Engineers (ITE) 7th Edition Trip Generation Manual.

2) The land use-based trip rates for commercial use are based on the following equation:
LN(T) = AxLN(X)+B where X=land use amount (combined TSF in the TAZ) and T=daily trips

| Land Use Type | Units | Coefficients | | — AM Peak Hour — | | | — PM Peak Hour — | | |
|---|---|---|---|---|---|---|---|---|---|
| | | A | B | Peak/ADT Ratio | In | Out | Peak/ADT Ratio | In | Out |
| Commercial | TSF | .65 | 5.83 | .024 | 61% | 39% | .087 | 48% | 52% |
| Office | TSF | .77 | 3.65 | .14 | 88% | 12% | .135 | 17% | 83% |

ADT = average daily trips DU = Dwelling Unit EQ = equation-based TSF = thousand square feet

As detailed in new Appendix ~~N~~ O which contains the traffic analysis for this Alternative, and shown in Tables 7.4-3 and 7.4-4, Alternative 7 would result in fewer impacted intersections within the Project Area and within the extended Project Area compared to the Proposed Project (see Table 3.14-14 which similarly compares proposed project level of service to those under the existing General Plan Buildout).

## Table 7.4-3 2030 Intersection LOS Summary within Project Area

| Loc. # | North-South (NS) Road at East-West (EW) Road | 2030 MPAH Current General Plan | | | | 2030 MPAH Alternative 7 | | | | Difference | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | | |
| | | ICU | LOS | ICU | LOS | ICU | LOS | ICU | LOS | AM | PM |
| 1 | Alton & Portola | .57 | A | .49 | A | .51 | A | .50 | A | -.06 | .01 |
| 2 | Bake & Portola (a) | .72 | C | 1.03 | F | .74 | C | 1.05 | F | .02 | .02 |
| 3 | Lake Forest & Portola (a) | .65 | B | .96 | E | .64 | B | .87 | D | -.01 | -.09 |
| 4 | Glenn Ranch & Portola | .85 | D | .78 | C | .65 | B | .69 | B | -.20 | -.09 |
| 45 | Portola & SR-241 Ramps | .49 | A | .69 | B | .48 | A | .62 | B | -.01 | -.07 |
| 6 | Alton & SR-241 Ramps | .65 | B | .65 | B | .63 | B | .53 | A | -.02 | -.12 |
| 7 | Lake Forest & SR-241 NB | .37 | A | .51 | A | .31 | A | .44 | A | -.06 | -.07 |
| 8 | Lake Forest & SR-241 SB | .64 | B | .57 | A | .49 | A | .47 | A | -.15 | -.10 |
| 9 | Bake & Rancho N | .76 | C | .90 | D | .72 | C | .86 | D | -.04 | -.04 |
| 10 | Lake Forest & Rancho (a) | .96 | E | 1.32 | F | .88 | D | 1.13 | F | -.08 | -.19 |
| 11 | Bake & Rancho S | .76 | C | .83 | D | .76 | C | .79 | C | .00 | -.04 |
| 12 | El Toro & Portola/Santa Margarita (a) | .95 | E | 1.08 | F | .82 | D | .96 | E | -.13 | -.12 |
| 13 | Bake & Commercentre | .62 | B | .72 | C | .67 | B | .74 | C | .05 | .02 |
| 14 | Bake & Irvine/Trabuco (a) | 1.07 | F | 1.09 | F | 1.13 | F | 1.05 | F | .06 | -.04 |
| 15 | Lake Forest & Trabuco | .76 | C | .88 | D | .82 | D | .88 | D | .06 | .00 |
| 16 | Ridge Route & Trabuco | .60 | A | .68 | B | .56 | A | .69 | B | -.04 | .01 |
| 17 | El Toro & Trabuco (a) | .89 | D | .99 | E | .88 | D | .98 | E | -.01 | -.01 |
| 18 | Bake & Toledo | .82 | D | .66 | B | .90 | D | .69 | B | .08 | .03 |
| 19 | Lake Forest & Toledo | .56 | A | .53 | A | .62 | B | .56 | A | .06 | .03 |
| 20 | Ridge Route & Toledo | .41 | A | .41 | A | .40 | A | .43 | A | -.01 | .02 |
| 21 | El Toro & Toledo | .57 | A | .65 | B | .62 | B | .70 | B | .05 | .05 |
| 22 | Bake & Jeronimo (a) | .94 | E | .82 | D | 1.02 | F | .87 | D | .08 | .05 |
| 23 | Lake Forest & Jeronimo | .77 | C | .89 | D | .76 | C | .89 | D | -.01 | .00 |
| 24 | Ridge Route & Jeronimo | .51 | A | .69 | B | .54 | A | .71 | C | .03 | .02 |
| 25 | El Toro & Jeronimo (a) | .96 | E | .94 | E | .92 | E | .92 | E | -.04 | -.02 |
| 26 | Los Alisos & Jeronimo (a) | .91 | E | .96 | E | .92 | E | .94 | E | .01 | -.02 |
| 27 | Lake Forest & Muirlands | .69 | B | .81 | D | .69 | B | .83 | D | .00 | .02 |
| 28 | Ridge Route & Muirlands | .58 | A | .80 | C | .60 | A | .82 | D | .02 | .02 |
| 29 | El Toro & Muirlands | .75 | C | .84 | D | .78 | C | .86 | D | .03 | .02 |
| 30 | Los Alisos & Muirlands (a) | 1.03 | F | 1.08 | F | 1.02 | F | 1.11 | F | -.01 | .03 |
| 31 | Lake Forest & Rockfield | .76 | C | .85 | D | .80 | C | .88 | D | .04 | .03 |
| 32 | Ridge Route & Rockfield (a) | .76 | C | 1.19 | F | .85 | D | 1.25 | F | .09 | .06 |
| 33 | El Toro & Rockfield | .58 | A | .74 | C | .60 | A | .72 | C | .02 | -.02 |
| 34 | Los Alisos & Rockfield (a) | .91 | E | .93 | E | .91 | E | .90 | D | .00 | -.03 |
| 35 | Lake Forest & I-5 NB | .67 | B | .65 | B | .65 | B | .67 | B | -.02 | .02 |
| 36 | Lake Forest & I-5/Carlota (a) | .81 | D | .99 | E | .82 | D | 1.00 | E | .01 | .01 |
| 37 | Paseo De Valencia & Carlota (a) | .67 | B | .98 | E | .65 | B | 1.01 | F | -.02 | .03 |
| 38 | El Toro & Bridger/I-5 NB | .65 | B | .67 | B | .66 | B | .67 | B | .01 | .00 |
| 39 | El Toro & Avd Carlota (a) | .72 | C | 1.00 | E | .72 | C | 1.01 | F | .00 | .01 |
| 40 | Portola & Rancho | .69 | B | .79 | C | .61 | B | .69 | B | -.08 | -.10 |
| 41 | Alton & Towne Centre Dr (a) | .82 | D | 1.07 | F | .90 | D | .76 | C | .08 | -.31 |
| 42 | Alton & & Commercentre | .53 | A | .69 | B | .62 | B | .74 | C | .09 | .05 |

SOURCE: Austin-Foust Associates, 2007

Abbreviations: ICU = intersection capacity utilization LOS= level of service NB=Northbound SB=southbound

(a) Locations which are forecast to operate deficiently in the AM and/or PM hour.

Yellow highlighting indicates an intersection that was impacted under the Proposed Project, but which is not impacted under Alternative 7.

Red highlighting indicates an intersection which was not impacted under the Proposed Project, but is impacted under Alternative 7.

(b) ICUs at this City of Irvine location include a .05 Advanced Transportation System Management System (ATMS) credit.

For information on the ICU and LOS values projected at each intersection under the project scenario, please see Table 3.14-14, beginning on page 3.14-46 of the PEIR.

## Table 7.4-4 2030 Intersection LOS Summary within Extended Project Area

| Loc. # | North-South (NS) Road at East-West (EW) Road | 2030 MPAH Current General Plan | | | | 2030 MPAH Alternative 7 | | | | Difference | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM | PM |
| | | ICU | LOS | ICU | LOS | LOS | ICU | ICU | LOS | ICU | ICU |
| 100 | Portola Pkwy. at SR-241 NB Ramps | .63 | B | .70 | B | .60 | A | .74 | C | -.03 | .04 |
| 101 | Portola Pkwy. at SR-241 SB Ramps | .57 | A | .47 | A | .56 | A | .52 | A | -.01 | .05 |
| 102 | Ridge Vly. at Portola Pkwy. | .60 | A | .86 | D | .57 | A | .90 | D | -.03 | .04 |
| 103 | Sand Cyn. Av. at Portola Pkwy. | .76 | C | .68 | B | .74 | C | .71 | C | -.02 | .03 |
| 104 | Jeffrey Rd. at Portola Pkwy. | .83 | D | .68 | B | .76 | C | .62 | B | -.07 | -.06 |
| 105 | Alton Pkwy. at Irvine Bl. (a) | .92 | E | .98 | E | .90 | D | 1.01 | F | -.02 | .03 |
| 106 | B Dr. at Irvine Bl. | .83 | D | .79 | C | .81 | D | .75 | C | -.02 | -.04 |
| 107 | A Dr. at Irvine Bl. | .85 | D | .85 | D | .81 | D | .84 | D | -.04 | -.01 |
| 108 | Y St. at Irvine Bl. | .76 | C | .82 | D | .74 | C | .80 | C | -.02 | -.02 |
| 109 | College Dr. at Irvine Bl. | .78 | C | .67 | B | .76 | C | .66 | B | -.02 | -.01 |
| 110 | SR-133 NB Ramps at Irvine Bl. | .88 | D | .74 | C | .85 | D | .73 | C | -.03 | -.01 |
| 111 | SR-133 SB Ramps at Irvine Bl. | .84 | D | .57 | A | .79 | C | .61 | B | -.05 | .04 |
| 112 | Sand Cyn. Av. at Irvine Bl. | .87 | D | .81 | D | .85 | D | .78 | C | -.02 | -.03 |
| 113 | Jeffrey Rd. at Irvine Bl. (b) | .83 | D | .89 | D | .83 | D | .87 | D | .00 | -.02 |
| 114 | SR-133 NB Ramps at Trabuco Rd. | .61 | B | .53 | A | .59 | A | .53 | A | -.02 | .00 |
| 115 | SR-133 SB Ramps at Trabuco Rd. | .56 | A | .50 | A | .57 | A | .50 | A | .01 | .00 |
| 116 | Sand Cyn. Av. at Trabuco Rd. | .82 | D | .81 | D | .84 | D | .82 | D | .02 | .01 |
| 117 | Alton Pkwy. at Toledo Wy. (a) | .73 | C | .84 | D | .72 | C | .92 | E | -.01 | .08 |
| 118 | Alton Pkwy. at Jeronimo Rd. | .63 | B | .71 | C | .72 | C | .77 | C | .09 | .06 |
| 119 | Alton Pkwy. at Muirlands B | .77 | C | .83 | D | .81 | D | .87 | D | .04 | .04 |
| 120 | Marine Wy. at Alton Pkwy. | .77 | C | .84 | D | .87 | D | .87 | D | .10 | .03 |
| 121 | Alton Pkwy. at Technology Dr. | .83 | D | .87 | D | .82 | D | .84 | D | -.01 | -.03 |
| 122 | Alton Pkwy. at I-5 NB Ramps | 1.00 | E | .59 | A | .97 | E | .58 | A | -.03 | -.01 |
| 123 | Marine Wy. at Rockfield Bl. | .51 | A | .57 | A | .53 | A | .56 | A | .02 | -.01 |
| 124 | Bake Pkwy. at Muirlands Bl. | .73 | C | .85 | D | .82 | D | .85 | D | .09 | .00 |
| 125 | Bake Pkwy. at Rockfield Bl. (a) | .66 | B | .89 | D | .69 | B | .92 | E | .03 | .03 |
| 126 | Bake Pkwy. at I-5 NB Ramps | 1.00 | E | .94 | E | .99 | E | .93 | E | -.01 | -.01 |
| 127 | Bake Pkwy. at I-5 SB Ramps | .91 | E | .89 | D | .87 | D | .92 | E | -.04 | .03 |
| 128 | Bake Pkwy. at Irvine Center Dr. | .43 | A | .45 | A | .42 | A | .45 | A | -.01 | .00 |
| 129 | Lake Forest Dr. at Irvine Center Dr. | .71 | C | .81 | D | .73 | C | .82 | D | .02 | .01 |
| 130 | Ridge Route at Moulton Pkwy. (a) | .56 | A | 1.13 | F | .58 | A | 1.12 | F | .02 | -.01 |
| 131 | Santa Maria Av. at Moulton Pkwy. (a) | .98 | E | .99 | E | .99 | E | .99 | E | .01 | .00 |
| 132 | El Toro Rd. at Moulton Pkwy. (a) | 1.17 | F | 1.02 | F | 1.18 | F | 1.02 | F | .01 | .00 |
| 137 | Los Alisos Bl. at Trabuco Rd. (a) | .94 | E | .79 | C | .94 | E | .79 | C | .00 | .00 |
| 138 | Trabuco Rd. at Alicia Pkwy. (a) | .78 | C | .94 | E | .74 | C | .94 | E | -.04 | .00 |
| 139 | Jeronimo Rd. at Alicia Pkwy. | .74 | C | .77 | C | .74 | C | .78 | C | .00 | .01 |
| 140 | Alicia Pkwy. at Muirlands Bl. (a) | .91 | E | 1.00 | E | .92 | E | .98 | E | .01 | -.02 |
| 141 | I-5 NB Ramps at Alicia Pkwy. | .42 | A | .72 | C | .39 | A | .73 | C | -.03 | .01 |
| 142 | I-5 SB Ramps at Alicia Pkwy. | .71 | C | .75 | C | .70 | B | .76 | C | -.01 | .01 |
| 143 | Los Alisos Bl. at Avd. de la Carlota | .51 | A | .75 | C | .53 | A | .73 | C | .02 | -.02 |
| 144 | El Toro Rd. at Paseo de Valencia | .64 | B | .70 | B | .64 | B | .68 | B | .00 | -.02 |
| 145 | Los Alisos Bl. at Paseo de Valencia | .74 | C | .80 | C | .77 | C | .80 | C | .03 | .00 |

SOURCE: Austin-Foust Associates, 2007

Abbreviations:

ICU = intersection capacity utilization LOS= level of service NB=Northbound SB=southbound

(a) Locations which are forecast to operate deficiently in the AM and/or PM hour.

Yellow highlighting indicate an intersection that was impacted under the Proposed Project, but which is not impacted under Alternative 7. Red highlighting indicates an intersection which was not impacted under the Proposed Project, but is impacted under Alternative 7.

All locations previously impacted by the proposed project are impacted with the exception of two locations which are not significantly impacted under Alternative 7 according to the performance criteria guidelines set forth in the analysis:

- #39-El Toro and Avenida Carlota, which the project does not significantly impact by .02 or more in ICU and and
- #41-Alton Parkway and Town Centre Drive, which is performing at acceptable level under Alternative 7 conditions.

As with the Proposed Project potential impacts to remaining intersections would be avoided through implementation of the LFTM, which is a part of the alternative.

However, this alternative would result in an impact to one intersection not impacted by the proposed project:

- #32-Ridge Route Drive and Rockfield Boulevard.

This impact can be mitigated with the addition of a northbound de facto right-turn lane. Should Alternative 7 be adopted, the LFTM would be modified to include this mitigation and the City would have the option of removing improvements to the two intersections (#39 and #41) no longer significantly impacted under this alternative from the LFTM program.

As under the Proposed Project, no freeway ramps, or freeway mainline segments, are anticipated to be significantly impacted by Alternative 7 based on year 2030 conditions compared to the 2030 General Plan scenario.

As under the Proposed Project, no impacts related to parking would occur with implementation of Alternative 7.

## Utilities/Service Systems

### *Water*

Similar to the Proposed Project, water utility connections that would be required upon implementation of Alternative 7 would be constructed in accordance with applicable Uniform Codes, City Ordinances, Public Works standards, and IRWD design criteria. In addition, as under the Proposed Project, the General Plan policies in the Public Facilities / Growth Management Element require the City of Lake Forest to coordinate water quality and supply programs with the responsible water agencies and to work with local water districts in determining and meeting community needs for water service. Upon compliance with these regulations and policies, impacts related to water conveyance infrastructure under Alternative 7 would be similar in magnitude to the Proposed Project and, thus, would be less than significant.

Under Alternative 7, development on Sites 1, 2, 3, 4, 5 and 6 would occur the same as for the Proposed Project with the exception that:

- Site 2 (Portola Center): 930 dwelling units, 40,000 square feet of commercial uses and 8 acres of neighborhood park rather than the 1,132 dwelling units, 178,720 square feet of commercial uses and 10 acres of neighborhood park under the Proposed Project.
- Site 3 (IRWD): 833 dwelling units and up to 10 acres of public facilities ( Community Center, City Hall and active park) rather than the 833 dwelling units and 11 acres of parkland under the Proposed Project.
- Site 4 (Baker Ranch): 50 acres of sports park rather than the 475 dwelling units, 150,000 square feet of commercial and 4 acres of neighborhood park under the Proposed Project.
- Site 7: No change to existing conditions compared to the 45 acres of public facilities under the Proposed Project.
- Site 9: 13 acres of sports park rather than no development assumed under the Proposed Project.

Thus, the total difference applicable to this analysis in development scenarios between the Proposed Project and Alternative 7 consist of a decrease in 677 residential units and 288,720 sf of commercial and the additional parkland. Using the same water demand factors as presented in Table 3.15-6, development under Alternative 7 would result in a water demand that is approximately 1,748,530 gpd or 286,198 gpd less than the Proposed Project. (This number is based on the calculation method used in the Draft PEIR. See Section 7.2.7 for IRWD calculation.) As discussed under Impact 3.15-2, and Section 7.2.7, IRWD can adequately supply water to the Proposed Project. Also, as discussed in Impact 3.15-1, the existing water treatment facilities can adequately provide service for the Proposed Project. Since Alternative 7 would generate less water demand than the Proposed Project, development under this alternative would not generate additional demand or require additional water treatment facilities or expansion of existing facilities. Impacts related to water demand and water treatment facilities would be less than under the Proposed Project and would be less than significant.

### *Wastewater*

The IRWD requires a wastewater discharge permit for industrial facilities and certain commercial facilities that plan to discharge industrial wastewater to the IRWD's sewage collection and treatment system. The purpose of the wastewater discharge permit program is to ensure the City's compliance with the NPDES program, as administered by the RWQCB, for all facilities discharging to navigable waters of surface water of the state, including sewage treatment plants.

Development under Alternative 7 would comply with all provisions of industrial wastewater permits, if required, which regulate discharges. Through compliance with the City's wastewater discharge permit, which is administered subject to the requirements and limitations of the NPDES program and enforced by the Regional Water Quality Control Board, it can be assumed that development Alternative 7 would not result in an exceedance of the Board's wastewater treatment requirements.

Further, the NPDES permit system also regulates both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the state (e.g., stormwater systems). For point source discharges, each NPDES permit contains limits on allowable concentrations and emissions of pollutants contained in the discharge. For nonpoint source discharges, Alternative 7 would be required to apply for the applicable permits, and would be required to comply with all applicable wastewater discharge

requirements issued by the applicable RWQCB. Impacts would be similar in magnitude to the Proposed Project and be less than significant.

Development under Alternative 7 would not generate wastewater that would exceed the capacity of the existing wastewater treatment system in combination with the provider's existing service commitments. Similar to water demand, as discussed above, development under Alternative 7 would result in a decrease in wastewater generation than under the Proposed Project. Using the same wastewater generation factors as presented in Table 3.15-9, the reduced development under Alternative 7 would result in a wastewater generation that is approximately 1,143,705 gpd or 189,245 gpd less than the Proposed Project. As discussed in Impact 3.15-4, wastewater generated by the Proposed Project would constitute less than the remaining capacity of the existing wastewater treatment facilities and, therefore, could be adequately served by these facilities. Since Alternative 7 would generate less wastewater than the Proposed Project, development under this alternative would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities. Impacts related to wastewater treatment would be less than under the Proposed Project and would be less than significant.

### *Solid Waste*

Development of Alternative 7 would not reduce the capacity of the landfill(s) providing disposal services to the City and would comply with applicable statutes and regulations related to solid waste. Similar to water demand and wastewater generation, as discussed above, development under Alternative 7 would result in a decrease in solid waste generated than under the Proposed Project. Specifically, the reduced development under Alternative 7 would result in a solid waste generation that is approximately 35,668 lbs per day compared to 42,112 for the Proposed Project. As discussed in Impact 3.15-5, solid waste generated by the Proposed Project would constitute less than the remaining capacity of the existing landfill facilities and, therefore, could be adequately served by these facilities. Since Alternative 7 would generate less solid waste than the Proposed Project, development under this alternative would not exceed the permitted daily capacity of any of the nearby landfills. Impacts related to solid waste disposal would be less than under the Proposed Project and would be less than significant.

As with the Proposed Project, development under Alternative 7 would be subject to AB 939, which mandates a minimum 50 percent diversion goal. Development under Alternative 7, similar to the Proposed Project, would be implemented in a manner consistent with City's commitment and in compliance with AB 939. In addition, Alternative 7 would be implemented in a manner consistent with the goals and policies in the City of Lake Forest General Plan Recreation and Resources Element. Impacts would be similar as under the Proposed Project and would be less than significant.

### *Energy*

Development under Alternative 7 would not generate electricity or natural gas demand that would require the construction of new energy production or transmission facilities. Similar to the issues discussed above, development under Alternative 7 would result in a smaller increase in energy demand than under the Proposed Project because implementation of this Alternative would result in fewer residential units. The reduced development under Alternative 7 would result in an electricity demand that

is approximately 21.7 MWh per day less than the Proposed Project. Similarly, Alternative 7 would also result in a decrease in natural gas demand of approximately 0.146 million cubic feet per day. Since Alternative 7 would generate less demand for electricity and natural gas, development under Alternative 7 would not require or result in the construction of new electric or natural gas facilities or the expansion of existing facilities. Impacts related to electricity and natural gas demand would be less than under the Proposed Project and would be less than significant.

### 7.4.3 Attainment of Project Objectives

This alternative provides for development on Sites 1 through 6, plus the inclusion of community facilities on Sites 3, 4 and 9. No development would occur on Site 7. This alternative would attain all project objectives, but to a different extent than the Proposed Project. Specifically, the objective dealing with providing adequate recreational facilities, including an active sports/park complex would be attained to a greater extent than the Proposed Project because Alternative 7 increases the amount of acreage dedicated to public facilities. Secondly, the objective of achieving a diversity of housing may be attained to a lesser extent than the Proposed Project because fewer residential units would be provided. This alternative eliminates 475 multi-family units on Site 4 and reduces the total number of residential units on Site 2. The overall reduction may affect the overall mix of residential product types found in the project area. However, this cannot be determined at this program level of analysis as Alternative 7 does not assume a specific unit mix for the project sites; the General Plan Amendment and Zone Change as it applies to the project sites would allow a mix of residential densities and product types similar to the proposed project.

## Table 7.4-5 Comparison of Impacts of Alternative 7 to the Proposed Project

| Threshold | Impacts of Alternative Compared to Proposed Project | Comments |
|---|---|---|
| **Aesthetics** | | |
| Substantially degrade the visual quality of the Project Area by detracting from the overall image of the City or through design features, architectural style, building incompatibility with surrounding uses, degradation of views from roadways or adjacent uses, unscreened outdoor uses or materials, or introduction of building mass that conflicts with the character of surrounding development. | Similar | Building heights, densities, and massing would be substantially similar to the Proposed Project, as the primary difference between this alternative and the Proposed Project is the location of the public facilities. |
| Substantial adverse effect on a scenic vista by obstructing public views or of scenic resources or scenic vistas and by obstructing views from a designated scenic highway or arterial roadway, or through removal of natural features or addition of man-made features or structures that degrades the visual intactness and unity of the scenic vista. | Similar | Impacts with regard to alteration of viewsheds and obstruction of views of scenic resources on all sites would remain less than significant. |
| Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area where the project would have outdoor illumination of more than 1¼ foot candles from dusk to dawn, where the project will use reflective building materials, or where the project would use neon or similar signage or architectural features. | Less than | The sports park on Site 4 and 9 would not adversely affect adjacent uses, which are commercial and industrial, but light impacts would still be significant and unavoidable. |
| Conflict with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. | Similar | Development of this alternative would not change the level of impact with regard to conflict with any applicable plans or policies, and this impact is less than significant. |
| Result in a design that is not permitted by the applicable Planned Community Development Standards and Design Guidelines or the relevant Specific Plan. There would be no impact with regard to visual resources. | Similar | Development under this alternative would comply with all applicable standards and design guidelines, the same as for the Proposed Project. |
| **Agricultural Resources** | | |
| Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. | Less than | Site 7 would not be developed. |
| Conflict with existing zoning for agricultural use. | Similar | Development under Alternative 7 would require that the existing General Plan be amended to reflect the change in land use, same as the Proposed Project. |
| Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use. | Less than | Site 7 would not be developed. |

## Table 7.4-5 Comparison of Impacts of Alternative 7 to the Proposed Project

| Threshold | Impacts of Alternative Compared to Proposed Project | Comments |
|---|---|---|
| Air Quality | | |
| Conflict with or obstruct implementation of the applicable air quality plan by causing or contributing to the emission of identified air pollutants in excess of levels stated in the plan or by failing to implement a remedial or mitigation measure required under the plan. | Less than | Alternative 7 reduces overall density as compared to the Proposed Project; therefore, the emissions generated under the alternative would also be less than those of the Proposed Project. |
| Violate any state or federal air quality standard or contribute substantially to an existing or projected air quality violation. | Less than | Though Alternative 7 is expected to exceed SCAQMD's recommended thresholds, Alternative 7 reduces overall density as compared to the Proposed Project; therefore, the emissions generated under the alternative would be less than those of the Proposed Project. |
| Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) where the incremental effect of the project emissions, considered together with past, present, and reasonably anticipated further project emissions, increase the level of any criteria pollutant above the existing ambient level. | Less than | Though Alternative 7 is expected to exceed the SCAQMD's recommended thresholds for CO, VOC, NOx, and $PM_{10}$, because the overall development area for Alternative 7 is less than the Proposed Project, the overall emissions generated under this alternative would be less than that of the Proposed Project. |
| Expose sensitive receptors to substantial pollutant concentrations by causing the emission of identified pollutants in excess of the pounds per day or tons per quarter standards established by SCAQMD. | Less than | The Proposed Project would not generate CO concentrations that would exceed the national and state ambient air quality standards, and thus would result in a less-than-significant impact, this impact would be of an even lesser magnitude for Alternative 7, which has less overall development than the Proposed Project. |
| Create objectionable odors affecting a substantial number of people by causing an odiferous emission that is noxious, putrid, having an appreciable chemical smell, or having an appreciable smell of human or animal waste, renderings, or by-products which will affect an area occupied by 100 or more people. | Similar | Implementation of Alternative 7 would not create objectionable odors affecting a substantial number of people, and would result in a less-than-significant impact; this impact would be similar in magnitude to the Proposed Project. |
| Greenhouse Gas Emissions | Less than | Like the proposed project, Alternative 7 would result in significant unmitigated impacts. |

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| **Biological Resources** | | |
| Have a substantial adverse effect, either directly or through habitat modification, 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 Game or U.S. Fish and Wildlife Service. | Greater than | Under Alternative 7, conversion of habitat that is suitable for multiple sensitive species, including but not limited to the horned lark, orange-throated whiptail, coastal California gnatcatcher, southern California rufous-crowned sparrow, and coastal cactus wren; it would also involve the removal of sensitive habitats such as coastal sage scrub, chaparral, needlegrass grassland, riparian vegetation, and would result in substantial adverse effect on federally protected wetlands. |
| Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. | Greater than | Under Alternative 7, conversion of habitat that is suitable for multiple sensitive species, including but not limited to the horned lark, orange-throated whiptail, coastal California gnatcatcher, southern California rufous-crowned sparrow, and coastal cactus wren; it would also involve the removal of sensitive habitats such as coastal sage scrub, chaparral, needlegrass grassland, riparian vegetation, and would result in substantial adverse effect on federally protected wetlands. |
| 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. | Greater than | Under Alternative, conversion of habitat that is suitable for multiple sensitive species, including but not limited to the horned lark, orange-throated whiptail, coastal California gnatcatcher, southern California rufous-crowned sparrow, and coastal cactus wren; it would also involve the removal of sensitive habitats such as coastal sage scrub, chaparral, needlegrass grassland, riparian vegetation, and would result in substantial adverse effect on federally protected wetlands, as defined by Section 404 of the CWA. |
| 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. | Greater than | Under Alternative 7, conversion of habitat that is suitable for multiple sensitive species, including but not limited to the horned lark, orange-throated whiptail, coastal California gnatcatcher, southern California rufous-crowned sparrow, and coastal cactus wren; it would also involve the removal of sensitive habitats such as coastal sage scrub, chaparral, needlegrass grassland, riparian vegetation, and would result in substantial adverse effect on federally protected wetlands. |
| Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. | Similar | Buildout of Alternative 7 would be required to comply with local policies and/or ordinances, same as the Proposed Project. |
| Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. | Similar | Buildout of Alternative 7 would be required to comply with local, regional, and/or state habitat conservation plans, same as the Proposed Project. |
| **Cultural Resources** | | |
| Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. | Similar | Buildout of the Alternative would have no adverse change in the significance of a historical resource, since none are located on the Proposed Project sites. This would be similar to the Proposed Project. |
| Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. | Similar | Mitigation measures for the Proposed Project would similarly reduce impacts of this alternative to less than significant. |

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| Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. | Similar | Mitigation measures for the Proposed Project would similarly reduce impacts of this alternative to less than significant. |
| Disturb any human remains, including those interred outside formal cemeteries. | Similar | Following the applicable provisions of the California Health and Safety Code would ensure that this impact remains less than significant by ensuring appropriate examination, treatment, and protection of human remains, as required by state law, similar to the Proposed Project. |
| Geology, Soils, and Mineral Resources | | |
| Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:<br>▪ 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 of based on other substantial evidence of a known fault<br>▪ Strong seismic groundshaking<br>▪ Seismic-related ground failure, including liquefaction<br>▪ Landslides | Similar | All mandatory regulations would be observed, ensuring that potential site-specific geotechnical conditions will be addressed fully in project design, same as the Proposed Project. |
| Result in substantial soil erosion or the loss of topsoil. | Similar | All mandatory regulations would be observed, ensuring that potential site-specific geotechnical conditions will be addressed fully in project design, same as the Proposed Project. |
| 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. | Similar | All mandatory regulations would be observed, ensuring that potential site-specific geotechnical conditions will be addressed fully in project design, same as the Proposed Project. |
| Be located on expansive soil, as defined in Table 18-1-A of the California Building Code (2001), creating substantial risks to life or property. | Similar | All mandatory regulations would be observed, ensuring that potential site-specific geotechnical conditions will be addressed fully in project design, same as the Proposed Project. |
| 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 wastewater. | Similar | All mandatory regulations would be observed, ensuring that potential site-specific geotechnical conditions will be addressed fully in project design, same as the Proposed Project. |
| 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. | Similar | Buildout of Alternative 7 calls for the eventual closure of one PCC-grade aggregate production sites, similar to the Proposed Project. |
| 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. | Similar | Buildout of Alternative 7 calls for the eventual closure of one PCC-grade aggregate production of Site 4, similar to the Proposed Project, and on Site 9. However, no resources would be lost as a result of the Alternative. |
| Hazards and Hazardous Materials | | |
| Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. | Similar | Mitigation measures for the Proposed Project would reduce this impact to a similar level. |

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| Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. | Similar | Mitigation measures for the Proposed Project would reduce this impact to a similar level. |
| Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. | Similar | Mitigation measures for the Proposed Project would reduce this impact to a similar level. |
| 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 create a significant hazard to the public or the environment. | Similar | Development under Alternative 7 would result in construction on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, same as the Proposed 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, would the project result in a safety hazard for people residing or working in the Project Area. | Similar | Development under Alternative 7 is not located within a two-mile radius of a public airport, same as the Proposed Project. |
| 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 Area. | Similar | Development under Alternative 7 is not located within the vicinity of an airstrip, same as the Proposed Project. |
| Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. | Similar | Development under Alternative 7 would not interfere with any emergency response or emergency evacuation plans with implementation of project mitigation. |
| 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. | Similar | Implementation of project mitigation would reduce this impact to a similar level of insignificance. |
| Hydrology and Water Quality | | |
| Increase the amount of runoff from some sites compared to existing conditions. The increased runoff could affect downstream facility capacity and may alter the 100-year floodwater surface elevation. | Similar | Similar, though slightly greater, runoff coefficients. |
| Adversely alter an existing drainage pattern or watercourse. | Similar | No significant changes in drainage patterns compared to the Proposed Project. |
| Have an impact on groundwater that is inconsistent with a groundwater management plan. | Similar | Similar runoff coefficients. |
| Affect water quality of receiving waterbodies and thus would degrade water quality. | Similar | Significant Unavoidable impact of the Proposed Project would not be avoided. |
| Land Use/Planning | | |
| Propose a use not currently permitted by the General Plan Land Use Map. | Similar | Amendments to the General Plan, Zoning Code, and Planned Communities would be undertaken to ensure conformity, same as the Proposed Project. |
| Propose a use not currently permitted by the Zoning Ordinance and Zoning Map. | Similar | Amendments to the General Plan, Zoning Code, and Planned Communities would be undertaken to ensure conformity, same as the Proposed Project. |

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| Propose a use not permitted by an applicable Planned Community or Specific Plan. | Similar | Amendments to the General Plan, Zoning Code, and Planned Communities would be undertaken to ensure conformity, same as the Proposed Project. |
| Propose a use that would create a nuisance for adjacent properties. | Similar | No significant inconsistencies with adjacent properties would occur that are greater than the Proposed Project. |
| Propose a use that is incompatible with surrounding land uses (e.g., difference in the physical scale of development, noise levels, traffic levels, or hours of operation). | Similar | No significant inconsistencies with adjacent uses would occur that are greater than the Proposed Project. |
| Noise | | |
| 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. | Similar | Development under Alternative 7 could expose sensitive receptors to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies during construction, similar to the Proposed Project. |
| Expose persons to or generate excessive groundborne vibration or groundborne noise levels. | Similar | Development under Alternative 7 could generate construction and grading activities that expose sensitive receptors to vibration levels above the 85 VdB threshold for vibration; similar to the Proposed Project. |
| Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. | Less than | The project would cause a significant increase in permanent ambient noise over existing conditions, though not considered to be a significant increase in noise over Year 2030 buildout of the Proposed Project. |
| Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. | Similar | While construction activities that would occur from implementation of Alternative 7 could result in a substantial temporary or periodic increase in noise levels, this increase would not be substantially different from temporary or periodic noise increase under the Proposed Project. |
| Expose people residing or working in the Project Area to excessive noise levels from a project located within an airport land use plan. | Similar | The Project Area is not within an airport land use plan. |
| Population and Housing | | |
| Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). | Less than | While the impacts of substantial population growth of Alternative 7 would be significant and unavoidable, the impacts would be less substantial than the impacts from development under the Proposed Project because less overall development would occur and fewer residents would be generated. |
| Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. | Similar | Development under Alternative 7 would result in the demolition of a negligible number of houses (3) currently on site, same as the Proposed Project. |
| Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. | Similar | Development under Alternative 7 would result in the displacement of a negligible number of people currently on site, same as the Proposed Project. |
| Public Services | | |

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| Result in substantial adverse physical impacts associated with the provision of 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:<br>▪ Fire Protection<br>▪ Police Protection<br>▪ Schools<br>▪ Other public facilities | Less than | Direct population increase would be slightly less, creating less demand for public services. |
| **Recreation** | | |
| 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. | Similar | A similar amount of parkland would be provided under this alternative. |
| Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. | Similar | Construction impacts from a similar amount of park acreage under this alternative would be substantially similar to the Proposed Project, as identified in the technical sections of this EIR |
| **Transportation/Traffic** | | |
| Cause the LOS on a roadway to exceed the applicable standard within the Project Study Area or extended Project Study Area. | Similar to Less than | The total traffic generated under Alternative 7 would be 11,817 less daily trips than the Proposed Project. This alternative would result in an approximately a 12 percent reduction in total trip generation as compared to the Proposed Project. Under this alternative two of the locations which would be impacted by the Proposed Project would not be impacted and would perform at acceptable levels of service under Alternative 7 without mitigation:<br>▪ #39-El Toro and Avenida Carlota, and<br>▪ #41-Alton Parkway and Towne Centre Drive, which are performing at acceptable level under Alternative 7 conditions.<br><br>As with the Proposed Project potential impacts to remaining intersections would be avoided through implementation of the LFTM, which is a part of the alternative.<br><br>This alternative would result in a mitigatible impact to one intersection not impacted by the Proposed Project:<br>▪ #32-Ridge Route Drive and Rockfield Boulevard. |

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| Cause the LOS on a freeway ramp to exceed the applicable standard within the Project Area. | Similar | With Alternative 7 impacts to freeway ramps are anticipated to be similar to the Proposed Project. No ramp impacts are anticipated compared to existing conditions or the 2030 General Plan scenario |
| Cause the LOS on a freeway mainline segment to exceed the applicable standard within the Project Area. | Similar | With Alternative 7, impacts to freeway mainline segments, are anticipated to be similar to the Proposed Project. As with the Proposed Project, no impacts are anticipated compared to the 2030 General Plan scenario. |
| Provide less parking than provided for in the City of Lake Forest Municipal Code | Similar | As under the Proposed Project, no impacts related to parking would occur with implementation of the Alternative 7. |
| Utilities and Service Systems | | |
| Water<br>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. | Less than | Demand would be less due to less overall development. |
| Create a shortfall of sufficient water supplies available to serve the Project from existing entitlements and resources, or may require issuance of new or expanded entitlements. | Less than | Demand would be less due to less overall development. |
| Wastewater<br>Exceed wastewater treatment requirements of the Santa Ana Regional Water Quality Control Board. | Less than | Generation of less wastewater due to less overall development. |
| Result in a determination (by the wastewater treatment provider that serves or may serve the Project) that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. | Less than | Generation of less wastewater due to less overall development. |
| Solid Waste<br>Result in the permitted capacity being exceeded, of the landfill serving the Project's solid waste needs. | Less than | Generation of less solid waste due to less overall development. |
| Result in non-compliance with federal, state, and local statutes and regulations related to solid waste. | Similar | Development under Alternative 7 would be required to be in compliance with all federal, state, and local statutes and regulations related to solid waste, same as the Proposed Project. |
| Energy<br>Require or result in the construction of new energy production and/or transmission facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. | Less than | Demand for energy would be slightly less due to less overall development. |

# 7.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that if the No Project/No Development alternative is determined to be the environmentally superior alternative, the environmentally superior alternative should be identified from among the remaining alternatives. The purpose of analyzing alternatives is to determine those alternatives that would avoid or lessen the significant impacts identified for the Proposed Project. In this case, none of the alternatives with the exception of the No Project/No Development Alternative avoids any of the significant impacts of the Proposed Project or reduces them to a level of insignificance. However, several of the alternatives reduce the severity of some or all of the significant impacts of the Proposed Project due to reconfiguration of development, although the impacts remain significant.

With regard to Aesthetics the impact to visual quality relative to development on Site 1, 2, 3 4, 5 and 6 would be similar to the Proposed Project under Alternative 2. The significant impact from increased light and glare would be slightly increased because of sensitive residential uses adjacent to the proposed public facilities with Alternative 2. The impacts on light and glare from Alternatives 3 and 4 and 7 would remain substantially similar to the impacts of the Proposed Project, although slightly greater due to the split configuration of the public facilities on various sites. The impacts on light and glare from Alternatives 1, 5, and 6 would be greater than for the Proposed Project, as described in the foregoing sections.

Air quality and population and housing impacts for Alternatives 2, 3, and 4 would be substantially similar to the significant impacts identified for the Proposed Project. Alternatives 5 (Landowner Concept Plan) and 6 would result in greater impacts to air quality and population and housing due to a greater level of development. Alternative 7 would result in a lower construction and operational emissions, although impacts would still be significant.

The significant and unavoidable impact with regard to pollutant runoff identified for the Proposed Project would still occur with all of the Alternatives. The impacts would be somewhat greater for Alternatives 1, 2, 5, and 6, due to either the uses proposed or the increased level of development.

The Draft PEIR identified Alternative 2 as the environmentally superior alternative. It would have fewer impacts than the proposed Project in six impact categories. Alternative 2 would, however, result in greater impacts in five impact categories.

As presented in this Recirculated Draft PEIR, Alternative 7 would result in greater impacts than the proposed Project in two impact categories, but would involve lesser impacts in eight impact categories. Specifically, Alternative 7, because of its lower trip generation, would result in less noise and air emission generation than the other alternatives. Alternative 7 would also result in less demand for public services and utilities. Therefore, from among the seven development alternatives analyzed in the Draft PEIR and Recirculated Draft PEIR, the environmentally superior alternative would be Alternative 7, as it reduces Proposed Project impacts to the greatest extent by reducing project trip generation and overall development.

# 7.6 COMPARISON OF ALTERNATIVES

All of the alternatives, with the exception of Alternative 1 (the No Project/Reasonably Foreseeable Development General Plan Alternative) would result in substantially similar impacts in all of the resource areas as outlined under the Proposed Project, as most of the development on Sites 1 through 6 as described for the Proposed Project would occur for Alternatives 2 through 5 and Alternative 7. Alternative 6 would provide for development on Sites 1 through 7 exactly as under the Proposed Project, with the addition of 450 residential units on Site 7. Alternative 7 would result in a reduction of 677 residential units and 288,720 sf of commercial development compared to the Proposed Project. Alternatives 2 through 7 would also meet all of the project objectives as described in Chapter 2 (Project Description). Revised Table 4-55 summarizes the impacts of Alternatives 1 through 7 compared to the Proposed Project for overall resource areas. Revised Table 4-56 compares the various alternatives with regard to attainment of project objectives.

**Revised Table 4-55 Summary of Impacts of Alternatives Compared to Proposed Project**

| | *No Project/No Development* | *No Project/Reasonably Foreseeable Development (General Plan)* | *Alternative 2 (Site 1)* | *Alternative 3 (Sites 1, 3, and 4)* | *Alternative 4 (Sites 4 and 9)* | *Alternative 5 (Landowner Concept Plan)* | *Alternative 6 (Site 7)* | *Alternative 7 Hybrid* |
|---|---|---|---|---|---|---|---|---|
| Aesthetics | Less than | Greater | Greater | Greater | Less than | Greater | Greater | Less than |
| Agricultural Resources | Less than | Similar | Less than | Less than | Less than | Less than | Greater | Less than |
| Air Quality | Less than | Greater | Less than | Less than | Less than | Less than | Greater | Less than |
| Biological Resources | Less than | Similar | Similar | Similar | Greater | Similar | Similar | Greater |
| Cultural Resources | Less than | Similar | Similar | Similar | Similar | Similar | Similar | Similar |
| Geology, Soils, and Mineral Resources | Less than | Similar | Similar | Similar | Similar | Similar | Similar | Similar |
| Hazards and Hazardous Materials | Less than | Greater | Similar | Similar | Similar | Similar | Greater | Similar |
| Hydrology and Water Quality | Less than | Greater | Greater | Greater | Greater | Greater | Greater | Greater |
| Land Use and Planning | Greater than | Similar | Greater | Greater | Similar | Greater | Greater | Similar |
| Noise | Less than | Greater | Greater | Greater | Greater | Greater | Greater | Less Than |
| Population and Housing | Less than | Similar | Less than | Less than | Less than | Greater | Greater | Less than |
| Public Services | Less than | Similar | Less than | Less than | Less than | Greater | Greater | Less than |

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|---|---|---|---|---|---|---|---|---|
| Recreation | Less than | Similar | Less than | Similar | Similar | Greater | Greater | Similar |
| Transportation/Traffic | Greater than | Greater | Similar to Slightly Greater | Greater | Similar to Slightly Less | Similar | Less than or Different | Less Than |
| Utilities and Service Systems | Less than | Less than | Less than | Less than | Less than | Greater | Greater | Less than |
| Avoids or Lessens any of Project's Significant Impacts? | Yes | No | 5 greater<br>6 less than | | | | | 2 greater<br>8 less than |

## REVISED Table 4-56 Summary of Project Objectives Compared to Proposed Project (PP)

| Project Objective | Alt 1—Existing General Plan | Alt 2—Public Facilities on Site 1 | Alt 3—Split Public Facilities Site | Alt 4—Public Facilities on 4 and 9 | Alt 5—Landowner Concept Plan | Alt 6—Land Use Overlay on Site 7 | Alternative 7 Hybrid |
|---|---|---|---|---|---|---|---|
| *Balanced Community*. Future residential and/or commercial development within the Project Area should serve to create a balanced and integrated community by providing linkages between existing segments of the City through master planned trail systems, strategically located public amenities, and carefully planned residential neighborhoods | No | Less than PP | Less than PP | Similar to PP | Less than PP | Similar to PP | Similar to PP |
| *Fiscal Stability*. Future residential and/or commercial development within the Project Area should ensure a fiscally sound and stable economic base for the community and provide the community with a mechanism to share equitably in the financial benefit derived from such development within the Project Area | No | Similar to PP | Similar to PP | Similar to PP | Less than PP | Similar to PP | Similar to PP |
| *Recreational Facilities*. Future residential and/or commercial development within the Project Area should benefit the entire community by providing adequate recreational facilities, including an active sports/park complex | No | Less than PP | Similar to PP | Less than PP | No | Similar to PP | Greater than PP |
| *Public Space*. Future residential and/or commercial development within the Project Area should benefit the entire community by providing adequate public open space and other public amenities, including a civic/community center | No | Similar to PP | Similar to PP | Similar to PP | No | Similar to PP | Similar to PP |
| *Natural Resources*. Future residential and/or commercial development within the Project Area should serve to protect natural resources within the Project Area | Less than PP | Similar to PP | Similar to PP | Similar to PP | Less than PP | Similar to PP | Similar to PP |
| *Diversity of Housing*. Future residential and/or commercial development within the Project Area should provide a diversity of housing types, including housing that is sold or rented at less than market rates to meet the needs of residents and potential residents who cannot afford market-rate housing, and accessible commercial amenities in order to ensure the establishment of a well balanced community | No | Less than PP | Less than PP | Less than PP | Similar to PP | Similar to PP | Less than PP |
| *Circulation System*. Future residential and/or commercial development within the Project Area should facilitate and achieve completion of the City's Circulation System including the extension of Alton Parkway and improvements to intersections impacted by the project. | Less than PP | Similar to PP | Similar to PP | Similar to PP | Less than PP | Similar to PP | Similar to PP |
| *Level of Service*. Future residential and/or commercial development within the Project Area should not create any greater impacts on the City's infrastructure or fiscal stability than the existing entitlement or uses allowed by the General Plan or adversely impact the City's ability to provide an acceptable level of service to the community | Similar to PP | Similar to PP | Similar to PP | Similar to PP | Less than PP | Similar to PP | Similar to PP |

**REVISED Table 4-56 Summary of Project Objectives Compared to Proposed Project (PP)**

| *Project Objective* | *Alt 1—Existing General Plan* | *Alt 2—Public Facilities on Site 1* | *Alt 3—Split Public Facilities Site* | *Alt 4—Public Facilities on 4 and 9* | *Alt 5—Landowner Concept Plan* | *Alt 6—Land Use Overlay on Site 7* | *Alternative 7 Hybrid* |
|---|---|---|---|---|---|---|---|
| *Development Commitments*. As a precondition to future residential and/or commercial development within the Project Area, each landowner and developer will be required to make binding development commitments determined to be appropriate by the City Council | Less than PP | Similar to PP | Similar to PP | Similar to PP | Similar to PP | Similar to PP | Similar to PP |