MARCH, 2017

LA Fitness Health Club
Draft Environmental Impact Report

State Clearinghouse Number: 2017011033

City of Seal Beach
Department of Community Development
211 Eighth Street
Seal Beach, CA 90740

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The proposed project analyzed in this Environmental Impact Report (EIR) is the construction of a single-story, 37,000-square-foot private health club within the existing Shops at Rossmoor retail development in the City of Seal Beach, as well as improvements to the left-turn pocket on northbound Seal Beach Boulevard onto Rossmoor Center Way and the widening of Rossmoor Center Way.

Project Description

The proposed project site is located at 12411 Seal Beach Boulevard in the City of Seal Beach (APN 086-492-079). The proposed project site, currently an asphalt parking lot, is located on the northwestern portion of the shopping center parking lot on Rossmoor Center Way, between Seal Beach Boulevard and Montecito Road. The site is bounded by residential uses to the west and north, a Sprouts grocery store and Marshall's department store to the east, and the retail stores Home Goods and PetSmart to the south. Facilities in the health club would include free weights, circuit training, a pool, a basketball court, separate rooms for aerobics and spinning, a personal training room, men's and women's showers and lockers, a hot yoga studio, a physical therapy room, and a children's area. All parking would be provided on the surrounding surface lot.

The traffic analysis prepared by LSA Associates, Inc. for this EIR found that under existing conditions without the proposed project, the existing northbound left-turn lane on Seal Beach Boulevard onto Rossmoor Center Drive experiences queuing deficiencies during periods of peak demand. However, the project description includes a reconfiguration of the existing northbound left-turn lane which will extend that lane by 145 feet. Not only will this planned element of the project correct the existing deficiency, it will preclude any additional queuing deficiency caused by the project. Although not necessary to mitigate impacts of the project on traffic, the applicant also proposes an option to widen Rossmoor Center Way to install a second westbound lane. This improvement provides a dedicated lane for turns into the health club parking lot, allowing no delays to through traffic travelling westbound on Rossmoor Center Way.

Land Use and Planning

Seal Beach is a community encompassing 11.5 square miles (7,296 acres) along the Pacific Ocean between the cities of Huntington Beach in Orange County and Long Beach in Los Angeles County. The City boundaries extend from the coastline to approximately two miles inland. The surrounding area is predominately developed with single-family residential, commercial, and open space/recreational land uses. Lands to the immediate west are within the unincorporated Orange County community of Rossmoor.

The Shops at Rossmoor shopping center, together with the adjacent Old Ranch Towne Center shopping center in unincorporated Rossmoor, provide more than 650,000 square feet of commercial uses, including large anchor stores and smaller community-serving retail and service uses. Immediately to the west of the Shops at Rossmoor is a high-density residential neighborhood (in unincorporated Rossmoor).

The project site is designated General Commercial in the Seal Beach General Plan and is zoned General Commercial (GC). Land use policies and regulations allow a mix of general and service commercial businesses. The General Plan Land Use Element recommends retaining the land use classification for the Rossmoor Center as General Commercial. The GC zone allows a range of retail sales and service uses by right, such as those occupying The Shops at Rossmoor center. Large-scale commercial recreation uses, such as the proposed health club project, are permitted subject to approval of a Conditional Use Permit.

Environmental Impact Assessment

This EIR examines four issues that were not dismissed as less than significant in the December, 2016 Initial Study. These issues are air quality, greenhouse gas, noise, and traffic and transportation. Each issue is discussed in separate sections in the EIR. Other required topics specified in the State CEQA Guidelines are examined as well. Table ES-1 summarizes the environmental impacts associated with the proposed project and lists the mitigation measures required to reduce or avoid significant impacts.

Table ES-1
Environmental Impact Summary

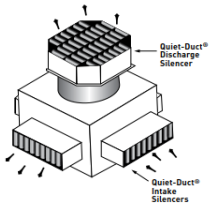
Impact Summary *The numbers in the first column refer to the EIR sections where specific impact topics are addressed. The letters refer to the thresholds identified in Appendix G of the CEQA Guidelines.*		Mitigation Measures	Level of Significance with Mitigation Incorporated
Less than Significant Impacts with Mitigation Incorporated			
Noise			
4.3.C	Cumulative noise levels due to operation of the project's heating, air conditioning, and ventilation (HVAC) rooftop units are calculated to be 53 dBA at the nearest residential property line; this exceeds the Municipal Code limit of 50 dBA. Thus, the rooftop units would potentially cause noise standard exceedances by 3 dBA, which could have a significant impact on nearby residences. The 3dBA increase represents an increase in sound level that is generally perceptible to most people.	Mitigation Measure Noise-1: Since HVAC rooftop unit noise levels would exceed Municipal Code limits of 50 dBA, one of the three following options—or any other comparable approach that will achieve the required noise reduction—will be implemented by the project applicant. The project applicant will be required to submit a plan to the City, prepared by an acoustical engineer or otherwise qualified specialist, documenting that HVAC rooftop units and associated mitigating features will achieve the Municipal Code standard. Mitigation Option 1. Install a screen or parapet around the HVAC units. To be an effective noise barrier, the screen or parapet should extend at least one foot above the tallest rooftop unit and be continuous at the north and west edges of the health club building. Mitigation Option 2. Utilize baffles/silencers/attenuators. Each rooftop unit will be fully enclosed with noise control devices located at air ventilation to lessen the noise radiating from the equipment. A representative figure of this concept is shown to the right.  Mitigation Option 3. Install quieter HVAC units. Once specific HVAC rooftop units are selected, sound data from their manufacturer can be used to show that the Code limit of 50 dBA at nearby property lines will not be exceeded.	Less than Significant

Table ES-1
Environmental Impact Summary

Impact Summary *The numbers in the first column refer to the EIR sections where specific impact topics are addressed. The letters refer to the thresholds identified in Appendix G of the CEQA Guidelines.*		Mitigation Measures	Level of Significance with Mitigation Incorporated
4.3.D	Construction of the project would generate temporary increased noise levels at the property line of the project site. While construction activity would occur within the time periods established in the Noise Ordinance, peaks in construction equipment work could be considered objectionable by some residents in adjacent units.	Mitigation Measure Noise-2: During construction, the applicant/developer shall employ the following standard practices for mitigating construction noise: • Implement a construction-related noise mitigation plan. This plan would depict the location of construction equipment storage and maintenance areas, and document methods to be employed to minimize noise impacts on adjacent noise-sensitive land uses. Additionally, the plan shall denote any construction traffic haul routes where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings. • Equip internal combustion engine-driven equipment with original factory (or equivalent) intake and exhaust mufflers which are maintained in good condition. • Prohibit and post signs prohibiting unnecessary idling of internal combustion engines. • Locate all stationary noise-generating equipment such as air compressors and portable generators as far as practicable from noise-sensitive land uses. • Utilize “quiet” air compressors and other stationary equipment where feasible and available. • Designate a noise disturbance coordinator who would respond to neighborhood complaints about construction noise by determining the cause of the noise complaints, and require implementation of reasonable measures to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site.	Less than Significant

Table ES-1
Environmental Impact Summary

Impact Summary *The numbers in the first column refer to the EIR sections where specific impact topics are addressed. The letters refer to the thresholds identified in Appendix G of the CEQA Guidelines.*		Mitigation Measures	Level of Significance with Mitigation Incorporated
Less than Significant Impacts			
Air Quality			
4.1.A	The proposed project would not conflict with or obstruct implementation of the South Coast Air Basin 2012 Air Quality Management Plan.		
4.1.B	The proposed project would not violate any air quality standard or contribute substantially to an existing or project air quality violation.		
4.1.C	The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).		
4.1.D	The proposed project would not expose sensitive receptors to substantial pollutant concentrations.		
4.1.E	The proposed project not create objectionable odors affecting a substantial number of people.		
Greenhouse Gas Emissions			
4.2.A	The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment.		
4.2.B	The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.		
Noise			
4.3.A	The proposed project would not expose persons or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.		
4.3.B	The proposed project would not expose persons to or generation of excessive groundborne vibration or groundborne noise levels.		
Traffic and Transportation			
4.4.A	The proposed project would not cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system		
4.4.B	The proposed project would not exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.		
4.4.C	The proposed project would not conflict result in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks.		
4.4.D	The proposed project would not substantially increase hazards due to design features or incompatible uses.		
4.4.E	The proposed project would not result in inadequate emergency access.		

Alternatives

The proposed project is consistent with the land use and zoning designations of the City, has adequate services and utilities to serve it, and would not result in unmitigated significant impacts. In addition, it would remedy in full the existing queuing deficiency on northbound Seal Beach Boulevard. The alternative of the construction and operation of any general commercial use on the project site is likely to present the same impacts identified for the proposed project and result in the same or equivalent mitigation of those impacts, but fail to remedy the existing queuing deficiency. Relocating the project to another location at the Shops at Rossmoor would not preclude the development of another commercial use on the project site which could have greater or lesser impacts that the proposed project. As a result, no alternative has been identified which is environmentally superior to the proposed project.

1.0 Introduction and Scope of the EIR

Introduction

The City of Seal Beach (Lead Agency) has received an application for a Conditional Use Permit submitted by CPT Shops @ Rossmoor, LLC (Applicant) for the development of a health club on the south side of Rossmoor Center Way, west of Seal Beach Boulevard. Approval of the applications constitutes a project that is subject to review under the California Environmental Quality Act (CEQA) 1970 (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Section 15000 et seq.).

Project Summary

The proposed project includes the construction of a single-story private health club comprising 37,000 square feet within the existing Shops at Rossmoor retail development. It is located at 12411 Seal Beach Boulevard in the City of Seal Beach (APN 086-492-079). The project site, currently an asphalt parking lot, is located on the northwestern portion of the shopping center parking lot on Rossmoor Center Way between Seal Beach Boulevard and Montecito Road. The site is bounded by residential uses to the west and north, a Sprouts grocery store and Marshall's department store to the east, and the retail stores Home Goods and PetSmart to the south. Facilities in the health club would include free weights, circuit training, a pool, a basketball court, separate rooms for aerobics and spinning, a personal training room, men's and women's showers and lockers, a hot yoga studio, a physical therapy room, and a children's area.

Prior Environmental Review

An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared for a similar project in June, 2016 and circulated to the public for a 20-day review period. The prior application was approved by the City's Planning Commission and was appealed to the City Council. The applicant withdrew the application before final action was taken by the City Council.

The applicant filed a new application in November, 2016 for essentially the same project. A new Initial Study was prepared in November, 2016 and circulated for a 30-day public review period. Based on the analysis contained in the Initial Study, the City determined that the proposed project may have a significant effect on the environment, requiring preparation of an Environmental Impact Report (EIR).

Topics Addressed in this EIR

The information and analysis presented in the November, 2016 Initial Study provide substantial evidence that, after considering all design features of the project and the requirements of all State and local regulations that would apply to the project, there is no potential for the project to have a significant environmental effect with respect to the topics listed below. As a result, pursuant to CEQA, these topics require no further evaluation in this EIR. The evaluation of these topics and the basis for the conclusions of "less than significant impact" or "no impact" can be found in the Initial Study, contained in Appendix A of this EIR. These topics are listed below by impact determination category identified in Appendix G, the Environmental Checklist Form.

- Air Quality
- Greenhouse Gas Emissions
- Noise
- Transportation and Circulation

Additionally, the City determined the project warranted consideration of project alternatives. This EIR was prepared in compliance with CEQA, the CEQA Guidelines, and the City's procedures for implementing CEQA. The environmental analysis for land use is presented in Chapter 3 of this document, and each of the other topics listed above are presented in Chapter 4.

Topics Not Addressed in Detail in the EIR Based on Preparation of the Initial Study

The information and analysis presented in the Initial Study provides substantial evidence for the conclusion, for all the issues listed below (i.e., those not addressed in detail this EIR), that CEQA standards triggering preparation of further environmental review do not exist for those issues. Topics not addressed in this EIR in detail are listed below by impact determination category identified in Appendix G, the Environmental Checklist Form. These topics are, however, analyzed for full disclosure of the environmental determination, in the Initial Study, within Appendix A of this EIR.

- Aesthetics
- Agricultural and Forest Resources
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hydrology and Water Quality
- Land Use
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

The following provisions of the guidelines for implementing CEQA (known as the "CEQA Guidelines") help define the role of this EIR as follows.

CEQA Guidelines Section 15121(a): Informational Document. An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.

CEQA Guidelines Section 15151: Standards for Adequacy of an EIR. An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

Further, CEQA states that the lead agency should not "approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects…" (Public Resources Code Section 21002). If the lead agency approves the project despite residual significant adverse impacts that cannot be mitigated to less-than-significant levels, the agency must adopt a "Statement of Overriding Considerations" stating the reasons for its action in writing.

CEQA Guidelines Section 15382 defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…". Therefore, in identifying the significant impacts of the project, this EIR concentrates on the project's substantial physical effects and on mitigation measures to avoid, reduce, or otherwise alleviate those effects.

Alternatives to the Project

CEQA requires that an EIR discuss a range of reasonable alternatives to the project. This EIR describes and analyzes two alternatives: the "No Project" alternative (Alternative 1) as required under CEQA (CEQA Guidelines Section 15126.6[e]) and "Alternative Location within the Shops at Rossmoor" (Alternative 2). Chapter 5 of this document discusses the environmental effects of each alternative, compares the environmental effects of each alternative with the environmental setting and with the effects of the project and each other alternative, and addresses the relationship of each alternative to the project objectives. The determinations of the lead agency concerning the feasibility, acceptance, or rejection of each and all alternatives considered in this EIR will be addressed and resolved in the City's findings when the City of Seal Beach considers approval of the project, as required by CEQA.

Intended Use of this EIR

The City of Seal Beach is the only authority having jurisdiction over approval of the project. The proposed project requires the following approvals:

- Development Review for a health and exercise membership club
- Conditional Use Permit for operation of the proposed health club

Scoping

The City issued a Notice of Preparation (NOP) related to the project and EIR on January 4, 2017. The City did not conduct a public scoping meeting.

Copies of written comments received during the 30-day public review period for the NOP are included in Appendix B of this EIR. Additional scoping comments were also received from other jurisdictions and agencies during the 30-day public review period. The scoping comments addressed in this EIR are summarized in Table 1.1 (Summary of Scoping Comments).

Table 1-1
Summary of Scoping Comments

Commenting Entity	Summary of Comment	Section in EIR where Addressed
Agencies		
South Coast Air Quality Management District	Requirements for air quality assessment to be included in EIR.	4.1 Air Quality 4.2 Greenhouse Gas
Native American Heritage Commission	Provides guidance on meeting CEQA requirements for cultural resource assessments and tribal consultations under AB52.	7.0 Effects Found Not to Be Significant
County of Orange Dept. of Public Works	Provide the updated traffic study discussed on page 61 of the LA Fitness Health Club Initial Study (December 2016)	4.4 Traffic
Orange County Fire Authority (OCFA)	The project as proposed has no OCFA needs.	N/A
Organizations		
Rossmoor Homeowners Association	The Rossmoor Homeowners Association has reviewed various plans and analyses for the LA Fitness Club Project at the Shops of Rossmoor	4.4 Traffic

Table 1-1
Summary of Scoping Comments

Commenting Entity	Summary of Comment	Section in EIR where Addressed
	and has serious concerns about the adequacy of the parking and traffic analysis.	
Bridgecreek Villas Condominiums Homeowners Association	Concerned with parking, noise, traffic	4.3 Noise 4.4 Traffic
Individuals		
Susan Barrett	Supports the project	N/A
Lauretta Collins	Concerned that the project will increase our traffic and quality of life because of the people that are traveling to our area that don't live here.	4.4 Traffic
Lisa Guardi	The center has so many "name brand" tenants that people are driving here from everywhere now. The traffic is awful on Los Alamitos Boulevard. I see people speed 50 miles an hour on Montecito to go to Kohls, etc. The community would be better served with a bookstore or more boutique shops.	4.4 Traffic
Tony Kozlowski	I wanted to express my complete disproval of the proposed LA Fitness facility that is being talked about for the Shops at Rossmoor. That area is completely over-developed now and even without a new fitness facility, traffic is already a nightmare for those of us who live in the area.	4.4 Traffic
Soo Min Hyun	We would not like LA Fitness to be at Seal Beach shopping center. The facility would definitely increase the traffic, and it's already difficult to get in and out of the center as it is, especially during peak times, when the facility will be used. I'm a Rossmoor resident, and I do not want to see increase in dangerous traffic from other areas coming into Rossmoor/Seal Beach.	4.4 Traffic
Mona Patrick	Our family of four adults are against this project. Our area is already a bottle neck after getting off the freeway and trying to get into Rossmoor. I know this traffic will devalue our homes, be bringing in much more traffic and people that do not live in the area. Will there be a public forum?	4.4 Traffic 1.0 Introduction
Anthony Rudisill	I think the slight added traffic caused by a fitness center in the proposed Seal Beach location would be more than offset by the benefits.	4.4 Traffic
David Zawolkow	Nothing has changed from the previous proposal. All of the prior resulting problems still exist without any indication of resolution.	N/A
Jason Delmonico	I believe that LA Fitness will be a great addition to our neighborhood	N/A
Rosemary Frenkiel	Supports the project	N/A
Arnold Myans	We don't need an LA Fitness in the Rossmoor Shopping Center. It will disrupt a lot of things and will bring more traffic to the area, which we don't want/need.	4.4 Traffic
Enea Ostrich	Concerned about fitness club traffic. We cannot expand Seal Beach Blvd. any more than it already has been. Pedestrians will be compromised as will bicyclists who plan to get to gym to reduce traffic but surprise surprise...they will be ignored by the automobile drivers and the combo could not be deadlier. Mark my words...we will see an increase in accidents and I only say that because with a well-known gym there the traffic will increase even with modifications. Let's put a financial park in there. That is what needs to be there instead.	4.4 Traffic 5.0 Alternatives

Table 1-1
Summary of Scoping Comments

Commenting Entity	Summary of Comment	Section in EIR where Addressed
S. Samuelson	Our local community does not need another health club. There are several health clubs close by. My main concern is the quality of life in Rossmoor is going downhill mainly because of the traffic, noise, pollution, etc.	4.1 Air Quality 4.3 Noise 4.4 Traffic
Hartmut Schroeder	Supports the project	N/A
Debbie Stea	I am a resident of Rossmoor. I am very much opposed to the development of LA Fitness in the Shops at Rossmoor. We have five large gyms and many small ones in a five-mile radius and there is no need for another one. The traffic is a nightmare in Rossmoor and a gym that size would increase traffic and noise and safety concerns tremendously.	4.3 Noise 4.4 Traffic
Dale and Jeri Woodward	As long-time Seal Beach residents, we are strongly opposed to the approval of a LA Fitness facility in the Rossmoor Shopping Center. Traffic in and out of the Center and along Seal Beach Blvd. is currently a huge problem, and the proposed facility will certainly create additional problems. Please do not approve this inappropriate business in the Center.	4.4 Traffic
Gary Brown	The area is already congested. Traffic a complete nightmare going in and out of the center and along the Boulevard. I would be more inclined to support such a project with a massive overhaul of the parking and entry/exit design to better optimize traffic flow and safety for pedestrians and vehicles alike.	4.4 Traffic
Xenophon Colazas	Worried about traffic congestion and noise pollution; safety of pedestrians; and parking.	4.3 Noise 4.4 Traffic
Steve Havens	This center will be a detriment to the surrounding residences and create chaos with morning and evening traffic access to the residential community. There is constant traffic and this destroys the neighborhood, the environment, and challenges simply running errands in the shopping areas.	4.4 Traffic
Nancy Holland	I live in Seal Beach, in a condo directly facing the proposed job site. I am against putting an LA Fitness Health Club on this proposed site because of the negative impact to my quality of life. This shopping center is already congested and to try to squeeze this club behind our property will cause noise, pollution, traffic, and congestion in our neighborhood. The hours of operation are a huge factor because of the noise so close to our bedroom windows.	4.1 Air Quality 4.3 Noise 4.4 Traffic
Leland Jay	I was born in Rossmoor. I have grown up to see the growth and development here. I believe that the traffic increase at Seal Beach Boulevard and Rossmoor Center Drive will make an already dangerous situation exponentially more dangerous for motorists traveling up Seal Beach Boulevard.	4.4 Traffic
Chris Marshall	I've been a resident of Rossmoor for over 20 years, and I'm hoping an LA Fitness goes into the parking area behind Sprouts. The land will eventually be used for something, and a facility like LA Fitness would be a positive addition to the community.	N/A
Mike Massion	I am opposed to the LA Fitness going in Seal Beach. I am concerned on the parking situation in close by Rossmoor.	4.4 Traffic
Maria Mayans	We certainly don't need to have LA Fitness behind Sprouts. We don't need more traffic or people in the area.	4.4 Traffic

Table 1-1
Summary of Scoping Comments

Commenting Entity	Summary of Comment	Section in EIR where Addressed
Todd N.	I'm concerned that a transient clientele patronizing existing businesses and possibly LA Fitness will add to traffic congestion in the area and increase the element of safety concern to residents.	4.4 Traffic
Mona Patrick	Please do not vote to approve this!!!	N/A
Jason Reed	I own a home in the Rossmoor community. Please approve the building of the LA Fitness. I look forward to a fitness center within walking distance of my home.	N/A
Janet and Jim Wagoner	We're writing to express our opposition to the LA Fitness project proposal. It will be massive traffic to Rossmoor and to Seal Beach Boulevard. And the parking will be taking up places where the apartments should be parking and employee parking for the center.	4.4 Traffic
Wolfgang Konrad	I am against building the LA Fitness behind our building due to negative environmental impact, negative impact on safety,	All Sections
Peter Lipschultz	Worried about parking issues, suggests a smaller project -- craft shop, objects to increased traffic and resulting bottlenecks project would cause. Objects to commercial gyms.	4.4 Traffic 5.0 Alternatives
Fred Wing	I have some real concerns about the proposed fitness club in the Shops at Rossmoor. Specifically, the entrances at exits to the center are already woefully inadequate to handle current traffic demands, let alone additional traffic that would be created.	4.4 Traffic
Gary Miller	My concerns are traffic: the new facility itself and parking. Perhaps another type of building could be constructed at that site: an office building of similar size would have better hours, not disrupt the sleep of the condo residents.	4.4 Traffic 5.0 Alternatives
Karen Swenson	Safety concerns for our pedestrians and school children and the safety concerns of massive amount of new traffic	4.4 Traffic
Glenn Ducat	Supports the project, provides suggestions on improvements for vehicle access	4.4 Traffic
Sande Gottlieb	Concerned with nighttime noise impacts, traffic, and safety.	4.3 Noise 4.4 Traffic
Joni Jones	Concerned with traffic, access, safety, parking, crime, air quality, noise	4.1 Air Quality 4.3 Noise 4.4 Traffic
Jerome Gottlieb	Concerned with noise, odors	4.1 Air Quality 4.3 Noise
William and Susan Nottingham	Support the project.	N/A
Elizabeth Piburn	Concerned with traffic and noise	4.3 Noise 4.4 Traffic
Jerry Strayve, Jr.	Concerned with traffic and noise	4.3 Noise 4.4 Traffic
Craig Maunders	The project should not be approved as a consequence of the detrimental impact not only to the Shops at Rossmoor neighbors, but to present and future customers of, as well as commercial tenants of the shopping center.	All Sections

Notice of Completion

Pursuant to Section 15085 of the State CEQA Guidelines, a Notice of Completion (NOC) will be filed with the State Office of Planning and Research (OPR) on or about March 8, 2017, and the Draft EIR will be circulated for public and agency review for a period of 45 days. A copy of the Draft EIR will be posted at the Seal Beach Library, the Los Alamitos-Rossmoor Library, the Leisure World Branch Library, and at City Hall. Copies of the Draft EIR will be sent to responsible agencies, local agencies, and concerned agencies and individuals, as requested. Public hearings will be held in conjunction with the review of the project.

Draft EIR Public Review

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, the general public, organizations, and public agencies can submit comments to the lead agency on the Draft EIR's accuracy and completeness. Release of this Draft EIR marks the beginning of a 45-day public review period pursuant to CEQA Guidelines Section 15105. The 45-day public review period for the Draft EIR will be from approximately Wednesday, March 8, 2017 through Monday, April 24, 2017. The public can review the Draft EIR at the three libraries mentioned above, at the City's Department of Community Development (address below) during normal business hours (Monday through Friday, 8 A.M. to 5 P.M.), or on the City's website: http://www.sealbeachca.gov/Departments/Community-Development.

City of Seal Beach
Department of Community Development
211 Eighth Street
Seal Beach, CA 90740

Final EIR

Upon completion of the Draft EIR public review period, a Final EIR will be prepared that will include written comments on the Draft EIR received during the public review period and the City's responses to those comments. The Final EIR will also include the Mitigation Monitoring Program (MMP) prepared in accordance with Section 21081.6 of the Public Resource Code. The Final EIR will address any revisions to the Draft EIR made in response to agency or public comments. The Draft EIR and Final EIR together will comprise the EIR for the proposed project. Before the City can approve the project, it must first certify that the EIR has been completed in compliance with CEQA, that the City Council has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City.

Organization of the Draft EIR

Chapter ES, Executive Summary—Summarizes the elements of the project, including the environmental impacts that could result from implementation of the proposed project. A summary table is provided that lists impacts, describes proposed mitigation measures, and indicates the level of significance of impacts before and after mitigation.

Chapter 1, Introduction and Scope of the Draft EIR—Provides an introduction and overview of the EIR process and describes the intended use of the EIR and the review process.

Chapter 2, Project Description—Provides a detailed description of the proposed project, including its location, background information, project history, project objectives, and technical characteristics.

Chapter 3, Land Use and Planning —Addresses the land use and planning implications of the project and discusses consistency and compatibility with adopted land use policies.

Chapter 4, Environmental Impacts and Mitigation Measures—Describes the baseline environmental setting and provides an assessment of potential project impacts for each technical issue area presented. Each section is divided into four sub-sections: Introduction, Environmental Setting, Regulatory Setting, and Impacts and Mitigation Measures (project-specific and cumulative).

Chapter 5, Project Alternatives—Describes and compares the proposed project alternatives to the proposed project.

Chapter 6, Analysis of Long Term Effects/Energy Conservation—Provides information required by CEQA regarding impacts that would result from the proposed project, including a summary of cumulative impacts, secondary impacts including potential impacts resulting from growth inducement, and significant irreversible changes to the environment. This chapter also includes an analysis of energy conservation measures.

Chapter 7, Effects Found not to Be Significant —Provides a list of issues that were not found to be significant in the Initial Study Checklist.

Chapter 8, EIR Preparation/References—Lists report authors who provided technical assistance in the preparation and review of the EIR. Provides a list of references used in preparation of the environmental analysis.

Appendices—Includes various documents and data that support the analysis presented in the EIR.

2.0 Project Description

Introduction

The City of Seal Beach (Lead Agency) has received an application for a Conditional Use Permit from CPT Shops @ Rossmoor, LLC (Applicant) for the development of a health club on the south side of Rossmoor Center Way, west of Seal Beach Boulevard. Approval of the applications constitutes a project subject to review under the California Environmental Quality Act (CEQA) 1970 (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Section 15000 et seq.).

Project Location

The project site encompasses a portion of the existing The Shops at Rossmoor shopping center, located at 12411 Seal Beach Boulevard in the City of Seal Beach (APN 086-492-079). The project site, currently an asphalt parking lot, is located on the northwestern portion of the shopping center parking lot on Rossmoor Center Way between Seal Beach Boulevard and Montecito Road (see Exhibit 1, Regional Context and Vicinity Map). The site is bounded by residential uses to the west and north, a Sprouts grocery store and Marshall's department store to the east, and the retail stores Home Goods and PetSmart to the south (see Exhibit 2, Site Plan).

The project site is located within a heavily urbanized area along Seal Beach Boulevard and Rossmoor Center Way. The project site currently is used as parking for the Shops at Rossmoor. Nominal ornamental landscaping is located on the existing parking area. The project site sits at an elevation of approximately 16 feet above sea level on land that slopes gently in a westerly direction.

Project Objectives

The applicant, the owner of the Shops at Rossmoor center, has stated that its underlying business objectives in proposing the project focus on design, compatibility, and revenue considerations. Those objectives are:

1. To expand the square footage and uses within the center consistent with the center's current General Plan and zoning designations.

2. To add a use to the center in a new structure that will be located within the existing underutilized parking field, but will maintain the center's compliance with all applicable parking requirements.

3. To add a use which will not detract from the overall experience of existing tenants by:

   a. Disrupting existing parking and shopping patterns that are important to existing tenants in the center; or
   b. Diminishing or obscuring exposure of existing center business to traffic along Seal Beach Boulevard.

4. To add a use which will not displace existing uses or require the demolition of existing leasable space, thus preserving existing lease and sales tax revenue opportunities.

5. To add a use for which potential environmental impacts, particularly those related to traffic and noise, can be mitigated to a level of insignificance so as not to adversely impact current tenants and adjacent neighbors.

Project Design

The proposed project is a one-story private, membership health club comprising 37,000 square feet of floor space. Facilities in the health club would include free weights, circuit training, a pool, a basketball court, rooms for aerobics and spinning classes, a personal training room, men's and women's showers and lockers, a hot yoga studio, a physical therapy room, and a children's area (see Exhibit 3, Floor Plan).

Through previous entitlements acquired by the Shops at Rossmoor from the City, the commercial center currently has 2,068 existing parking spaces. With completion of the proposed project, the total number of parking spaces in the center would be reduced to 1,981 spaces.

Because the project would be constructed on an existing parking lot, construction of the health club would require the removal of 85,600 square feet of existing asphalt surfaces, installation of 55,640 square feet of new asphalt surface, application of 119,065 square feet of slurry fill on the existing undisturbed asphalt, and restriping the entire 175,705 square-foot parking lot once the health club center is constructed (Table 2.1). The project site plan includes 16,795 square feet of ornamental landscaping around the perimeter of the health club and within parking lot planters.

Architecturally (see Exhibit 4, Project Elevations), the building would consist of a painted concrete tilt-up wall system accented with a prefabricated metal panel shell finish system. The entryway would consist of anodized aluminum. Painted plaster and simulated wood paneling would also be used on the building exterior. An internally illuminated sign with 40-inch-high letters would adorn the building façade on the south side. The building would have a stepped massing from 24 feet in height at the side and rear to 28 feet at the entryway to 35 feet at the highest point of the parapet holding the illuminated sign. Molding along the top of the building and arcade features would be finished with decorative cornices. Finally, images portraying individuals engaging in physical fitness activities are proposed to be placed on the rear and side building elevations.

Table 2.1 Site Improvements

Action	Area in Square Feet
Asphalt Removal	85,600
Asphalt Replacement	34,523
Asphalt Overlay (over existing)	21,117
Slurry Fill	119,065
Restriping of entire parking lot	174,705

Source: CPT Shops @ Rossmoor

Circulation

The traffic analysis prepared by LSA Associates, Inc. for this EIR found that under existing conditions without the proposed project, the existing northbound left-turn lane on Seal Beach Boulevard onto Rossmoor Center Drive experiences queuing deficiencies during periods of peak demand. However, the project description includes a reconfiguration of the existing northbound left-turn lane which will extend that lane by 145 feet (see Exhibit 5). Not only will this planned element of the project correct the existing deficiency, it will preclude any additional queuing deficiency caused by the project.

Under the project, vehicular access would be provided from Rossmoor Center Way via two existing driveways: a 40-foot-wide driveway just west of the proposed project site (which will be converted to a 36-foot driveway to accommodate proposed new parking) and a 36-foot-wide driveway just east of the proposed project site. Both driveways currently provide ingress and egress in a north-south direction into and out of the Shops at Rossmoor shopping center onto

Rossmoor Center Way. Although not necessary to mitigate impacts of the project on traffic, the applicant proposes to widen Rossmoor Center Way to install a second westbound lane (see Exhibit 6). This improvement provides a dedicated lane for turns into the health club parking lot, allowing no delays to through traffic travelling westbound on Rossmoor Center Way.

Utilities

The site is fully served by public utilities. An eight-inch water main runs west along Rossmoor Center Way before turning south under the existing 40-foot-wide driveway east of the project site. This main also serves the adjacent condominium development. Project construction would necessitate the capping of the existing water main under the proposed project site, extending the main under the 40-foot-wide driveway farther south, and constructing a new eight-inch main to run west from the driveway approximately 100 feet south and perpendicular to the existing main. Lateral connections would be made to this new water main.

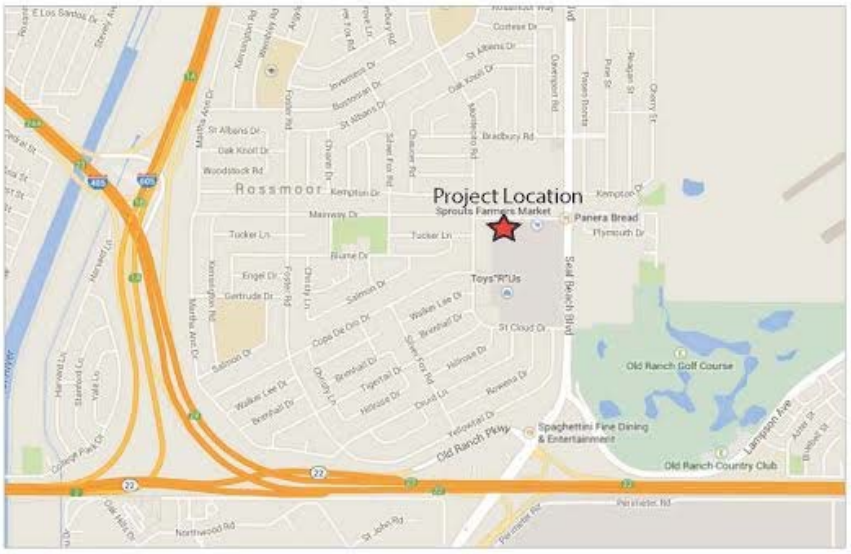
Project Operation

The health club would provide membership-based fitness services, including access to exercise equipment, group fitness classes, and personal fitness training. The health club is proposed to operate seven days a week. Hours of operation would be 5:00 A.M. to 11:00 P.M. Monday through Thursday, 5:00 A.M. to 10:00 P.M. on Fridays, and 8:00 A.M. to 8:00 P.M. on Saturdays and Sundays.

Project Construction

Project construction is anticipated to begin in mid-2017, with completion by mid-2018. Construction would require demolition of existing asphalt paving on the project site. (Construction program defaults were used for air quality and greenhouse gas emissions for a conservative estimate of timeframes and resulting emissions.) The default construction schedule is as follows:

Phase	Total Days
Demolition	20
Site Preparation	10
Grading	20
Building Construction	63
Paving	20
Architectural Coating	20



Regional

Vicinity

Not to Scale

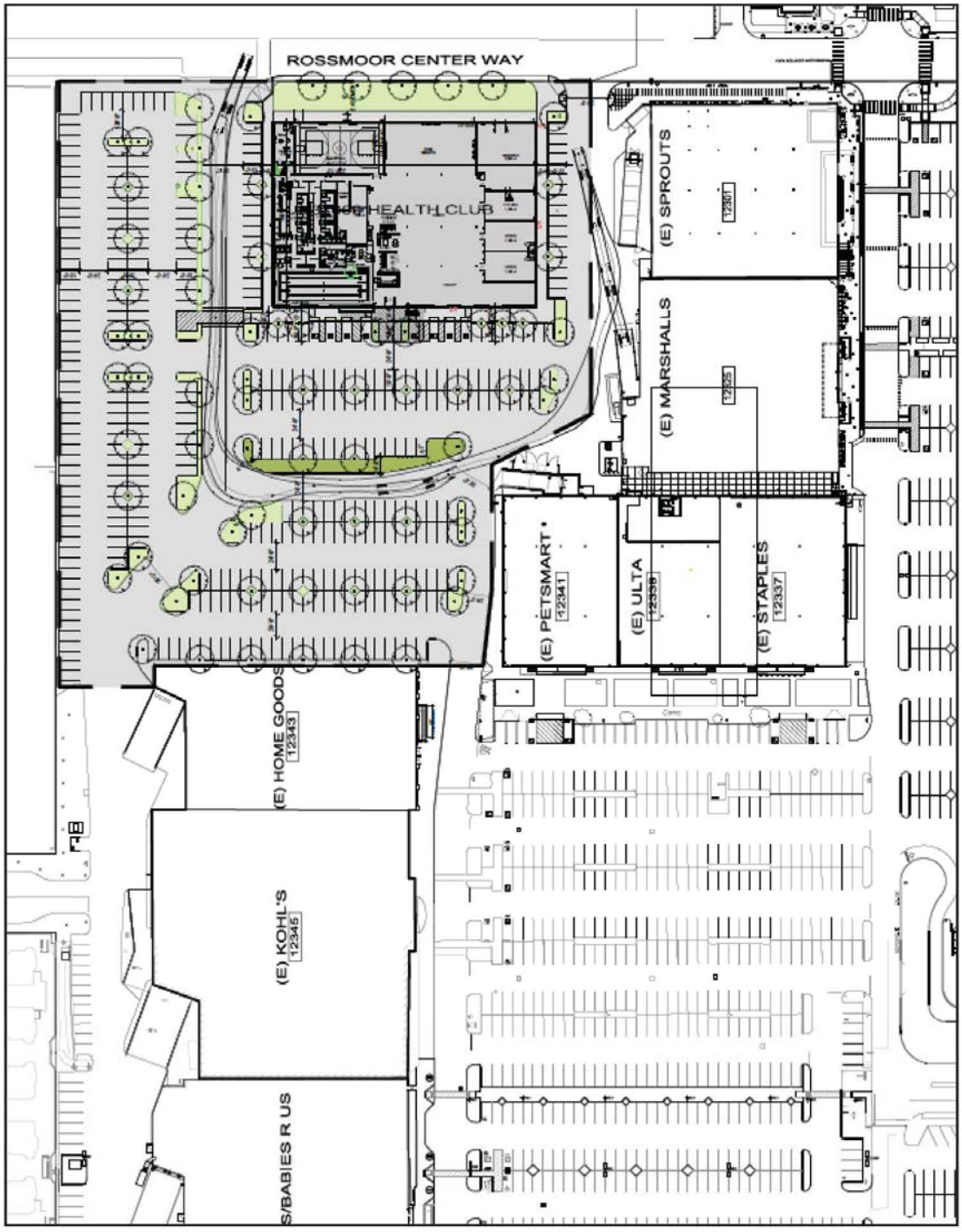
Exhibit 1 Regional and Vicinity Map

Rossmoor Health Club

City of Seal Beach, California

http://www.migcom.com - 951-787-9222

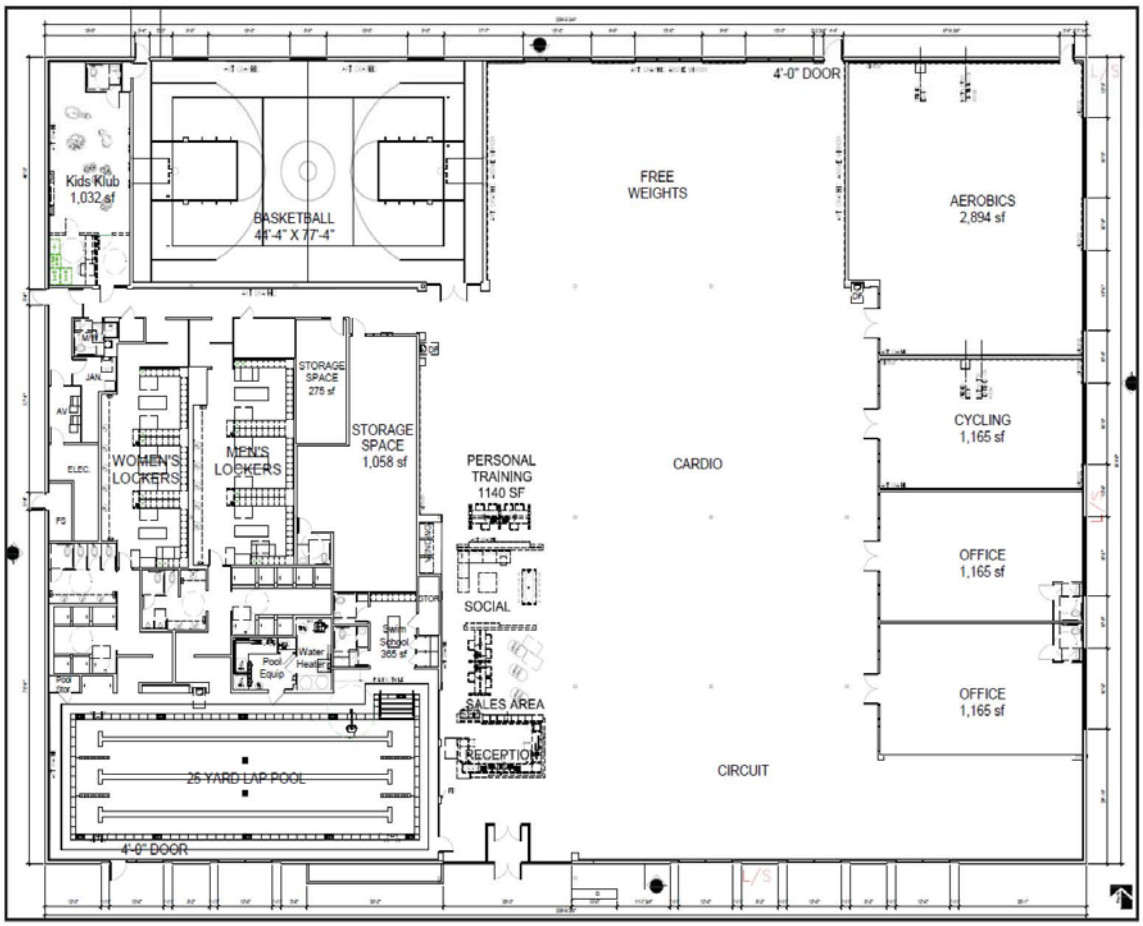
MIG



Source: Robinson Hill Architecture, Inc. 2015

Exhibit 2 Site Plan

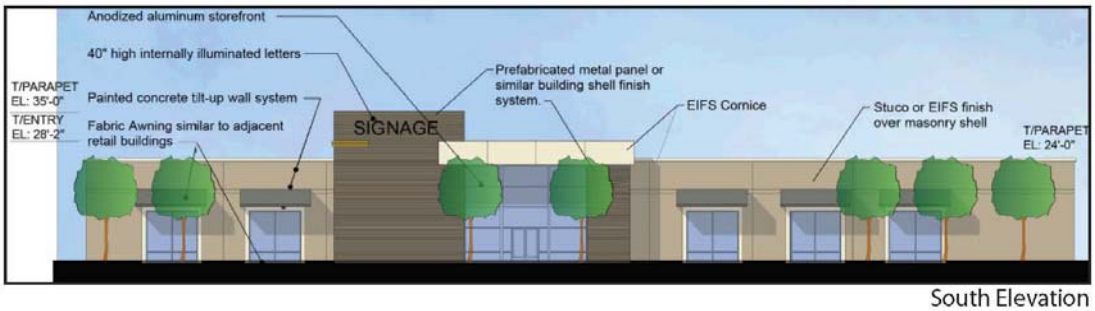
Rossmoor LA Fitness
City of Seal Beach, California



Source: Robinson Hill Architecture, Inc. 2015

Exhibit 3 Floor Plan

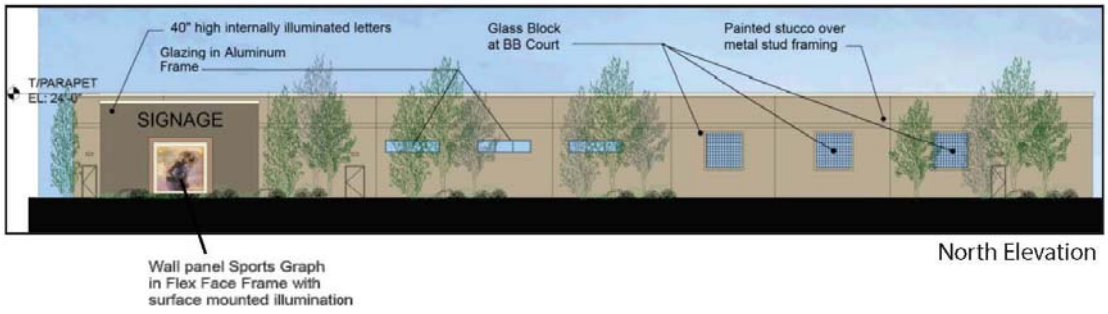
Rossmoor LA Fitness
City of Seal Beach, California



South Elevation

East Elevation

West Elevation



North Elevation

Source: Robinson Hill Architecture, Inc. 2015

Exhibit 4 Project Elevations

Rossmoor LA Fitness
City of Seal Beach, California

EXHIBIT 5

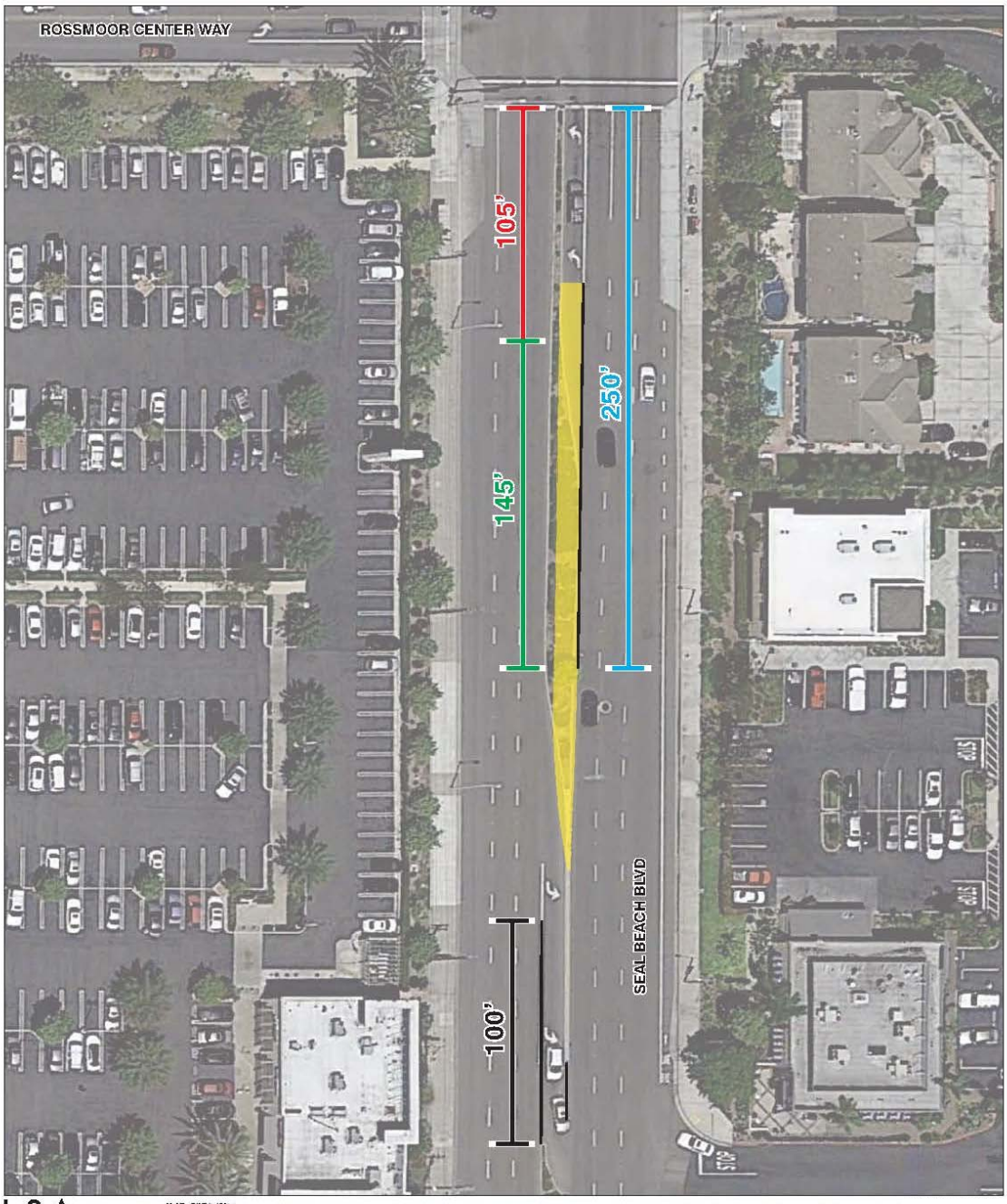
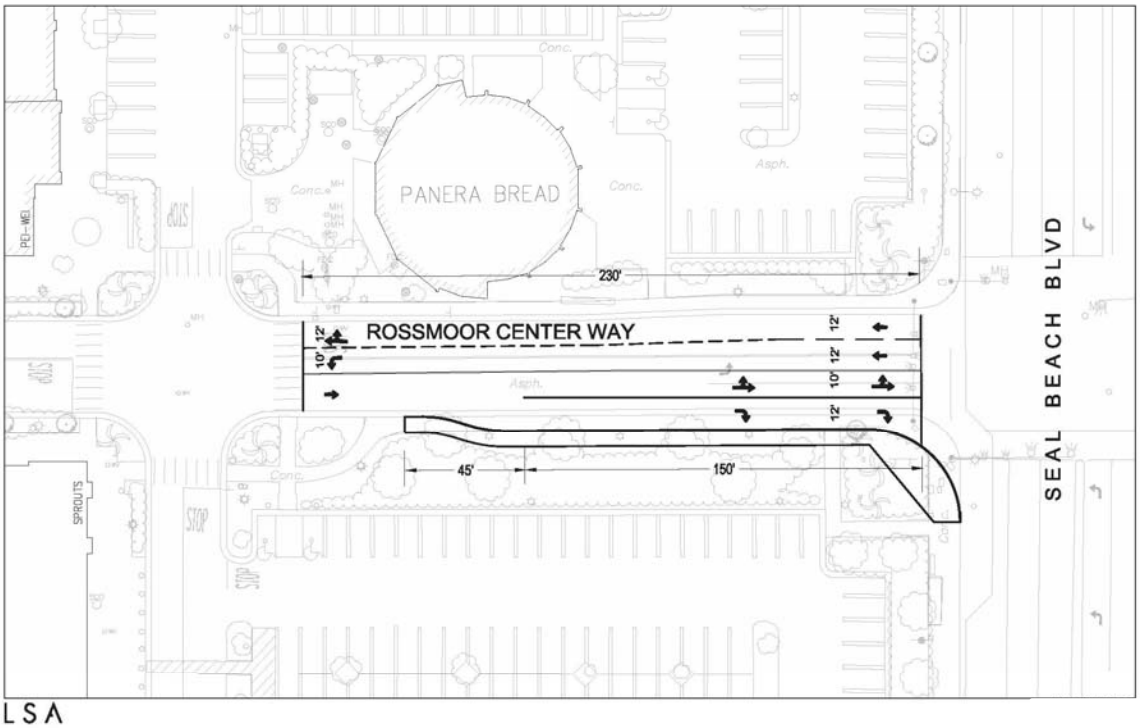

ROSSMOOR CENTER WAY
105'
250'
145'
100'
SEAL BEACH BLVD
STOP
LSA
LEGEND
- Recommended Turn Pocket Extension
- Existing Turn Pocket Storage
- Recommended Turn Pocket Storage
- Recommended Extension
0
30
60
FEET
SOURCE: Google Earth
I:\MPA1401\G\Turn Pocket Extension.cdr (3/3/2017)
Health Club within The Shops at Rossmoor
Recommended Turn Pocket Extension

EXHIBIT 6



LSA

SOURCE: Avantec

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Health Club within The Shops at Rossmoor

Rossmoor Center Way Reconfiguration Alternative

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3.0 Land Use and Planning

This section discusses potential conflicts between applicable land use plans, policies, or regulations and the proposed project, including those pertaining to the Seal Beach General Plan and Zoning Ordinance. The project was found to be consistent with plans, policies, and regulations of the City's General Plan and Zoning Ordinance.

Environmental Setting

EXISTING AND SURROUNDING LAND USE

The proposed project is located in the City of Seal Beach and next to the unincorporated Orange County community of Rossmoor. Currently the site is used as parking for the Shops at Rossmoor. The project site is surrounded by commercial and residential land uses, and the area is completely urbanized. Nominal ornamental landscaping is distributed within the existing parking area. The project site sits at an elevation of approximately 16 feet above sea level on land that slopes gently in a westerly direction. Surrounding uses are summarized in Table 4-1 (Surrounding Land Uses).

Table 3-1
Surrounding Land Uses

Direction	General Plan Designation	Zoning District	Existing Land Use
Project Site	Commercial General	GC – General Commercial	Parking
North	Residential High Density	RHD-46 – Residential High Density	Apartments
South	Commercial General	GC – General Commercial	Home Goods/PetSmart
East	Commercial General	GC – General Commercial	Sprouts/Marshalls
West	Residential High Density	RHD-46 – Residential High Density	Apartments

The community of Rossmoor, which is immediately adjacent to the Shops at Rossmoor shopping center is a census-designated community located in unincorporated Orange County. There are 3,430 single family homes, one apartment complex (Rossmoor Manor), and one townhouse complex (Rossmoor Town Houses) within Rossmoor. The community of Rossmoor has two shopping centers within its boundaries, but only one—the Rossmoor Village Square—is within the political boundaries of the Rossmoor Community Services District. The Shops at Rossmoor shopping center, which is larger, was annexed by the City of Seal Beach in 1967.

Planning and Regulatory Framework

CITY OF SEAL BEACH GENERAL PLAN

Seal Beach is a beach community encompassing 11.5 square miles (or 7,296 acres) along the Pacific Ocean between the cities of Huntington Beach in Orange County and Long Beach in Los Angeles County. The City boundaries extend from the coastline to approximately two miles inland. Four major highways cross through the City: the San Diego Freeway (I-405), I-605, the Garden Grove Freeway (SR 22), and Pacific Coast Highway (SR 1). The General Plan includes five planning areas which reflect the varied and unique characteristics of the City.[1] They are:

- Planning Area 1 – Old Town/Surfside
- Planning Area 2 – Hellman Ranch/Marina Hill/Boeing

[1] City of Seal Beach, 2003. General Plan Land Use Element

- Planning Area 3 – Leisure World
- Planning Area 4 – College Park/Bixby/Rossmoor
- Planning Area 5 – Naval Weapons Station

The project is located in Planning Area 4, which encompasses approximately 541 acres of the northernmost area of the City and is located north of I-405 and SR 22 (Figure 3-1). It is bounded to the west generally by the San Gabriel River and to the east by Valley View Road. Planning Area 4 is predominately developed with single-family residential, commercial, and open space/recreational land uses. It is divided into three subareas: College Park West, College Park East, and Old Ranch Towne Center/Rossmoor Center.

Old Ranch Towne Center/Rossmoor Center is generally bounded by Seal Beach Boulevard and the unincorporated community of Rossmoor to the west, I-405 to the south, and the City of Los Alamitos and the Los Alamitos Armed Forces Reserve Center to the north (Exhibit 3-1). The area supports a mix of commercial, recreational, and residential uses. The Shops at Rossmoor shopping center and Old Ranch Towne Center shopping center are in this district. Together they provide more than 650,000 square feet of commercial land uses, including large anchor stores and smaller community-serving retail and service uses. Immediately to the west of the Shops at Rossmoor is a high-density residential neighborhood.

Exhibit 3-1
Seal Beach Planning Area 4 Land Use

The General Plan Land Use Element includes policies for each subarea within each Planning Area. The following policies listed for the Old Ranch Towne Center/Rossmoor Center subarea are relevant to the project:

- Encourage the location and retention of community-serving businesses within these areas.
- Encourage preservation of the existing public and private recreational facilities, and seek opportunities to enhance parkland and recreational amenities within the planning area.
- Discourage pass-through traffic on Saint Cloud Street by minimizing driveways from Rossmoor Center.

- Evaluate proposed uses for the Old Ranch Towne Center and Rossmoor Center for compatibility with adjacent residential uses and Los Alamitos JFTB operations.

According to the General Plan, the Rossmoor Center, by current zoning classification, is considered a general commercial use, but the actual uses include a mix of general and service commercial businesses. The land use element recommends retaining the land use classification for the Rossmoor Center as General Commercial.

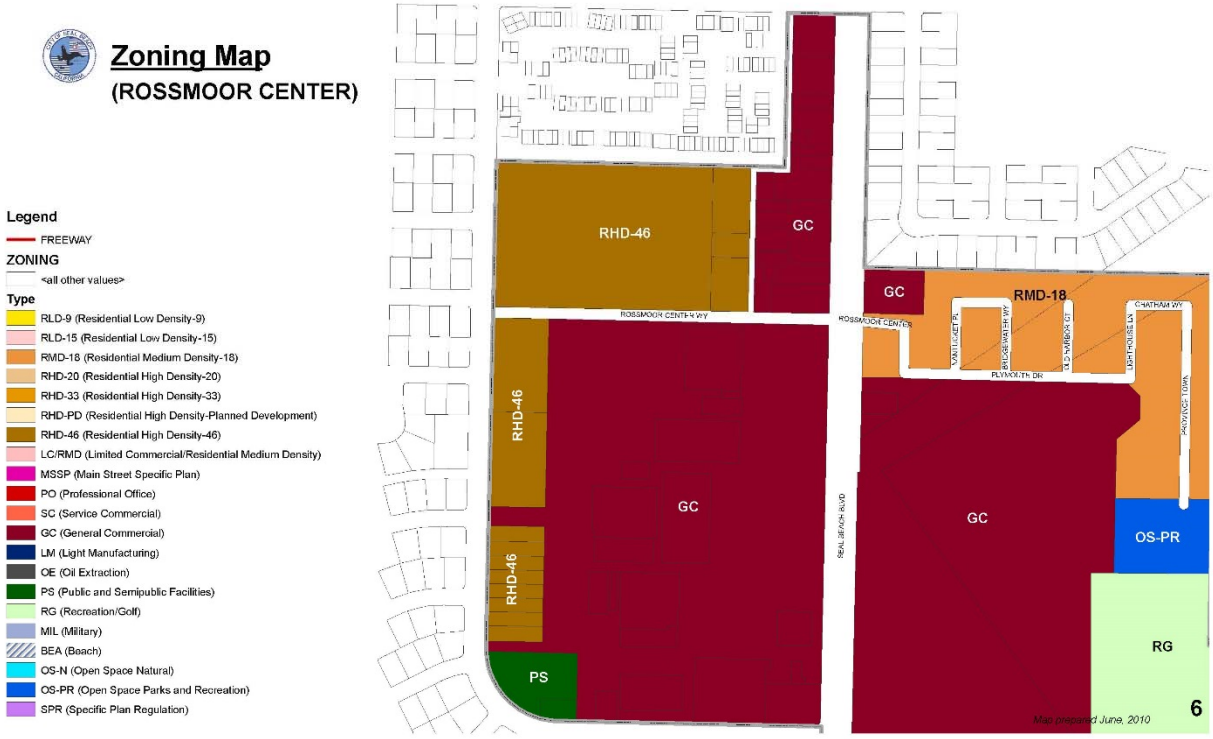
CITY OF SEAL BEACH ZONING ORDINANCE

The project site is zoned GC: General Commercial.[2] This designation allows "sub-regional and regional centers of commercial activity and may include both pedestrian- and auto-oriented development (see Exhibit 3-2). Other typical uses are auto service stations, auto repair, and sales." (Ord. 1598). Table 11.2.10.010 of the Zoning Ordinance addresses various land use types and their applicability to the different zoning regulations. Within the GC zone, the project is covered under "Recreational Commercial" and requires a conditional use permit (CUP). Uses subject to a CUP require "discretionary review and public hearing by the planning commission pursuant to Chapter 11.5.20: Development Permits." A project that requires a CUP requires findings be made that address the following:

1. How is the proposal consistent with the General Plan and with any other applicable plan adopted by the City Council?
2. Is the proposed use considered to be in conformity with the applicable zoning district and does it comply with all other applicable provisions of the Municipal Code?
3. Is the site physically adequate for the type, density and intensity of use being proposed, including provision of services, and the absence of physical constraints?
4. Are the location, size, design, and operating characteristics of the proposed use compatible with and will not adversely affect uses and properties in the surrounding neighborhood?
5. Will the establishment, maintenance, or operation of the proposed use at the location proposed not be detrimental to the health, safety, or welfare of persons residing or working in the vicinity of the proposed use?

[2] City of Seal Beach, 2016. Municipal Code, Zoning Ordinance

Exhibit 3-2
Rossmoor Center Zoning Map



Analysis of Consistency with Land Use Plans

Project consistency with applicable General Plan policies related to land use is analyzed below. Consistency determinations for other elements are addressed in the relevant chapter for each issue.

General Plan Policies	Consistency Statement
Land Use Element – Planning Area 4, Old Ranch Towne Center/Rossmoor Center	
Policy 1: Encourage the location and retention of community-serving businesses within these areas.	Consistent. The proposed health club is a community-serving business and will be located on a parcel that has been designated for general commercial land uses.
Policy 2: Encourage preservation of the existing public and private recreational facilities and seek opportunities to enhance parkland and recreational amenities within the planning area.	Consistent. The health club will provide additional recreational opportunities.
Policy 3: Discourage pass-through traffic on Saint Cloud Street by minimizing driveways from Rossmoor Center.	Consistent. The project includes two optional access improvements for the project. Under Option 1, Rossmoor Center Way would be widened to install a second westbound lane. This improvement provides a dedicated lane for turns into the health club parking lot, allowing no delays to through traffic travelling westbound on Rossmoor Center Way. Option 2 consists of using the two existing driveways on Rossmoor Center Way as described under Option 1, but with no extra lane added to Rossmoor Center Way, and adding a second driveway off of Seal Beach Boulevard that would allow southbound traffic to enter the Shops at Rossmoor, potentially reducing traffic congestion on Rossmoor Center Way. Neither option would encourage pass-through traffic on Saint Cloud Street because the project is located off of Rossmoor Center Drive, and patrons would realistically enter and exit using those driveways.
Policy 4: Evaluate proposed uses for the Old Ranch Towne Center and Rossmoor Center for compatibility with adjacent residential uses and Los Alamitos JFTB operations.	Consistent. The health club is not a 24-hour club. Hours of operation would be 5:00 A.M. to 11:00 P.M. Monday through Thursday, 5:00 A.M. to 10:00 P.M. on Fridays, and 8:00 A.M. to 8:00 P.M. on Saturdays and Sundays. The only noise associated with the club during operating hours would be traffic coming and going to the facility, including limited truck traffic making deliveries. Health and fitness clubs are not noise-generating land uses. Also, the use is not within any JFTB impact zone.

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4.1 Air Quality

This section provides information on the environmental and regulatory air quality setting of the proposed health club and evaluates the potential amount of regulated air pollutants that could be generated by construction and operation of the project. The methodologies and assumptions used in the preparation of this section utilize the South Coast Air Quality Management District's (SCAQMD) criteria pollutant significance thresholds. Potentially applicable federal, State, and local regulations were obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. As described in this section, the projected emissions of regulated air pollutants associated with the proposed project would not exceed the CEQA significance threshold developed by the SCAQMD and therefore, would not result in a significant impact. Mitigation measures are not necessary for the project.

Environmental Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

The U.S. EPA and CARB are the federal and State agencies charged with maintaining air quality in the nation and State, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the State into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions. The City of Seal Beach is located in Orange County, which is in the South Coast Air Basin (Basin). The Basin covers Los Angeles County, Orange County, the western portion of San Bernardino County, and Western Riverside County. The City of Seal Beach is located along the coast of California, and is approximately 20 miles southeast of Downtown Los Angeles.

REGULATED AIR POLLUTANTS

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally-based criteria.

CARB has established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility reducing particles. A description of the regulated, criteria air pollutants that may be associated with the project, is provided below.

- Ground-level Ozone, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), also called Reactive Organic Gasses (ROG), in the presence of sunlight.[1] Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.

[1] United States Environmental Protection Agency (U.S. EPA) 2014a. "Basic Information." *Basic Information*. U.S. EPA, Science and Technology [Air], National Ambient Air Quality Standards, Six Principal Pollutants, Ozone. November 26, 2014. Web. May 1, 2015. <http://www.epa.gov/airquality/ozonepollution/basic.html/>.

- Particulate Matter, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2013).[2]

    - PM_{10}, also known as inhalable coarse, respirable, or suspended PM_{10}, consists of particles less than or equal to 10 micrometers in diameter (approximately 1/7th the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2014b).[3]

    - $PM_{2.5}$, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately 1/30th the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2014b).

- Carbon Monoxide (CO) is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are the single largest source of carbon monoxide in the Basin. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2015a).[4]

- Nitrogen Dioxide (NO_2) is a by-product of combustion. NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2014c).[5]

- Sulfur Dioxide (SO_2) is one of a group of highly reactive gases known as oxides of sulfur (SO_X). Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA 2015b).[6]

- Sulfates (SO_4^{2-}) are the fully oxidized ionic form of sulfur. SO_4^{2-} are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).[7]

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2 United States Environmental Protection Agency (U.S. EPA) 2013. "Particulate Matter (PM)." *Particulate Matter*. U.S. EPA, Science and Technology [Air], National Ambient Air Quality Standards, Six Principal Pollutants. March 18, 2013. Web. July 29, 2015. <http://www.epa.gov/airquality/particlepollution/>.

3 United States Environmental Protection Agency (U.S. EPA) 2014b. "Health." *Health*. U.S. EPA, Science and Technology [Air], National Ambient Air Quality Standards, Six Principal Pollutants, Particulate Matter. May 6, 2014. Web. May 1, 2015. <http://www.epa.gov/airquality/particlepollution/health.html/>.

4 United States Environmental Protection Agency (U.S. EPA) 2015a. "Carbon Monoxide." *Carbon Monoxide*. U.S. EPA, Science and Technology [Air], National Ambient Air Quality Standards, Six Principal Pollutants. July 23, 2015. Web. July 29, 2015. <http://www.epa.gov/airquality/carbonmonoxide/>.

5 United States Environmental Protection Agency (U.S. EPA) 2014c. "Nitrogen Dioxide." *Nitrogen Dioxide*. U.S. EPA, Science and Technology [Air], National Ambient Air Quality Standards, Six Principal Pollutants. August 15, 2014. Web. July 29, 2015. <http://www.epa.gov/airquality/nitrogenoxides/>.

6 United States Environmental Protection Agency (U.S. EPA) 2015b. "Sulfur Dioxide." *Sulfur Dioxide*. U.S. EPA, Science and Technology [Air], National Ambient Air Quality Standards, Six Principal Pollutants. March 27, 2015. Web. July 29, 2015. <http://www.epa.gov/airquality/sulfurdioxide/>.

7 California Air Resources Board (CARB) 2009a. "History of Sulfates Air Quality Standard" *California Ambient Air Quality Standards*. CARB, Air Quality Standards and Area Designations, Review of Ambient Air Quality Standards, California Ambient Air Quality Standards. November 24, 2009. Web. July 29, 2015. <http://www.arb.ca.gov/research/aaqs/caaqs/sulf-1/sulf-1.htm/>

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as hazardous air pollutants (HAPs) or toxic air contaminants (TACs), respectively. These pollutants can cause severe health effects at very low concentrations, and many are suspected or confirmed carcinogens. The U.S. EPA has identified 187 HAPs, including such substances as arsenic and chlorine CARB considers all U.S. EPA designated HAPS, as well as particulate emissions from diesel-fueled engines and other substances, to be a TAC[8]. A description of Diesel Particulate Matter (DPM), a regulated TAC that may be associated with the construction and operation of the proposed project, is provided below:

- DPM is the exhaust from diesel engines comprised includes hundreds of different gaseous and particulate components, many of which are toxic. Many of the toxic compounds adhere to the particles, and because diesel particles are very small (less than 2.5 microns in diameter), they can penetrate deeply into the lungs.

Common criteria air pollutants, such as ozone precursors, SO_2, and particulate matter, are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the Basin); other pollutants, such as HAPs, TACs, and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

CLIMATE

The proposed project is located in the City of Seal Beach, Orange County, California. The City of Seal Beach and the broader Basin are defined by a Mediterranean climate with dry summers and rainy winters. Seal Beach is approximately five miles southeast of Long Beach, CA. Since no climate data is readily available for Seal Beach, climate data for Long Beach is presented instead.

Annual rainfall in Long Beach averages 12.01 inches, with the rainy season occurring in the winter (DRI 2016).[9] The coolest month of the year is December, with an average monthly low of 67.0° Fahrenheit (F). The warmest month is August, with an average monthly high of 83.9° F. The annual average maximum temperature is 74.2° F, and the annual average minimum temperature is 54.8° F. Seal Beach is located at an elevation of approximately 13 feet above mean sea level (AMSL), and the project site is located at an approximate elevation of 15 AMSL.

REGIONAL EMISSIONS LEVELS

CARB's estimate of the amount of emissions generated within the Basin in 2012, the most recent year for which data are available, is summarized in Table 4-1.

[8] Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs.

[9] Desert Research Institute (DRI) 2016. *Long Beach Daugherty Fld, California (045085)*. Period of Record Monthly Climate Summary: 01/01/1949 to 06/09/2016. Web. January 2017. <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5085/>.

Table 4-1
South Coast Air Basin Emissions Summary

Source	2012 Pollutant Emissions (Tons Per Day)						
	ROG	NO_X	PM	PM_{10}	$PM_{2.5}$	CO	SO_X
Stationary(A)	104	49	30	21	14	55	10
Area-wide(B)	122	22	17	96	32	102	1
Mobile(C)	240	442	9	37	22	2,114	7
Natural(D)	97	4	31	30	26	301	2
Total(E)	563	517	248	184	94	2,573	20

Source	2012 Pollutant Emissions (Tons Per Year)						
	ROG	NO_X	PM	PM_{10}	$PM_{2.5}$	CO	SO_X
Stationary (A)	38,070	17,703	11,060	7,592	4,965	20,148	3,687
Area-wide (B)	44,676	7,957	64,642	35,077	11,826	37,303	365
Mobile (C)	87,527	161,257	3,431	13,396	8,176	771,756	2,409
Natural(D)	35,296	1,606	11,425	10,987	9,308	109,902	840
Total (E)	205,532	188,523	90,557	67,051	34,310	939,109	7,300

Source: CARB 2013, modified by MIG in 2016

(A) Stationary sources include fuel combustion in stationary equipment or a specific type of facility such as printing and metals processing facilities.
(B) Mobile sources include automobiles, trucks, and other vehicles intended for "on-road" travel and other self-propelled machines such as construction equipment and all-terrain vehicles intended for "off-road" travel.
(C) Area-wide sources include solvent evaporation (e.g., consumer products, painting, and asphalt paving) and miscellaneous processes such as residential space heating, fugitive windblown dust, and cooking.
(D) Natural sources include decomposition of organic matter, ocean release, respiration, etc.
(E) Totals may not equal due to rounding.

LOCAL AIR QUALITY

The City of Seal Beach is located within the Basin, which is under the jurisdiction of the SCAQMD. Relative to the project site, the nearest long-term air quality monitoring site is SCAQMD Station 3195. Station 3195 is located in Source Receptor Area (SRA) 18 and is representative of the North Coastal Orange County (where the project would be located). Station 3195 monitors for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Air monitoring results for SRA 18 over the last three years of available data are summarized in Table 4-2. Table 4-3 summarizes the number of days for each monitoring year that air quality standards were exceeded. Based on the 2013-2015 air quality monitoring data, the North Orange County Coastal area experienced 2 days in 2015 where air quality exceeded the State 8-hour for ozone. Records indicate 2014 was the worst year for ozone levels between 2013-2015.

Table 4-2
2013-2015 Local Air Quality

Year	CO (PPM)	O_3 (PPM)		NO_2 (ppb)		SO_2 (ppb)	
	Max 8-hr	Max 1-hr	Max 8-hr	Max 1-hr	AAM	Max 1-hr	Max 24-hr
2015	2.2	0.099	0.079	52.4	11.6	4.5	--
2014	1.9	0.096	0.079	60.6	10.8	8.8	--
2013	2.0	0.095	0.083	75.7	11.6	4.2	--

Source: SCAQMD 2013-2015
Notes: There is no available data for concentrations of PM_{10}, $PM_{2.5}$, total suspended particulates, lead, or SO_4 at SRA 18 for the years provided.
-- pollutant not monitored
ppm, parts per million
ppb, parts per billion
µg/m³, micrograms per cubic meter
AAM, annual arithmetic mean

Table 4-3
2013-2015 Air Quality Standards Days in Exceedance

Year	O_3 (PPM)		
	Fed* 8-hr	State 1-hr	State 8-hr
2015	1	1	2
2014	4	1	6
2013	0	1	2

Source: SCAQMD 2013-2015
Notes: There is no available data for PM_{10}, and $PM_{2.5}$ violations for SRA 18 for the years provided.
* 0.075 ppm

ATTAINMENT STATUS

Air pollution levels are measured at monitoring locations throughout the Basin. Areas that are in nonattainment with respect to criteria pollutants are required to prepare plans and implement measures that will bring the region into attainment. Table 4-4 summarizes the attainment status in the non-desert portion of the Basin for criteria pollutants (CARB 2015a).[10] The non-desert portion of the Basin is currently in nonattainment status for ozone, inhalable and fine particulate matter, nitrogen dioxide, and lead.

Pollution problems in the Basin are caused by emissions within the area and the specific meteorology that promotes pollutant concentrations. Emissions sources vary widely from smaller sources, such as individual residential water heaters and short-term grading activities, to extensive operational sources, including long-term operation of electrical power plants and other intense industrial uses. Pollutants in the Basin are blown inland from coastal areas by sea breezes from the Pacific Ocean and are prevented from horizontally dispersing due to the surrounding mountains. This is further complicated by atmospheric temperature inversions that create inversion layers. The inversion layer in Southern California refers to the warm layer of air that lies over the cooler air from the Pacific Ocean. This is strongest in the summer and prevents ozone and other pollutants from dispersing upward. A ground-level surface inversion commonly occurs during winter nights and traps carbon monoxide emitted during the morning rush hour.

Table 4-4
South Coast Air Basin Attainment Status (Orange County)

Pollutant	Federal	State
O_3 (1-hr)	--	Nonattainment
O_3 (8-hr)	Nonattainment	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment[1]	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Pb	Attainment	Attainment
VRP	--	Unclassified
SO_4	--	Attainment
H_2S	--	Unclassified

Sources: CARB 2015a
[1] In 2011, both the annual $PM_{2.5}$ standard (15 µg/m3) and the 24-hour $PM_{2.5}$ standard (98 the percentile greater than 35 µg/m3) were exceeded at only one air monitoring station, Mira Loma, in Northwestern Riverside County

10 California Air Resources Board (CARB) 2015a. *Area Designation Maps* – State and National. December 2015. Web. January 2017. <http://www.arb.ca.gov/desig/adm/adm.htm/>.

SENSITIVE RECEPTORS

Some populations are more susceptible to the effects of air pollution than the population at large. These susceptible populations are defined as sensitive receptors. Sensitive receptors include children, the elderly, the sick, and the athletic. Land uses associated with sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities (including hospitals), rehabilitation centers, convalescent centers, and retirement homes. Pollutants of particular concern to sensitive receptors include carbon monoxide, toxic air contaminants, and odors. While odors do not present a health risk themselves, they are often considered a nuisance by people who live, work, or otherwise are located near outdoor odor sources. The nearest land uses to be considered sensitive receptors are the residential dwelling units located adjacent to the project site to the north and west, approximately 80 feet away from the proposed construction area. No schools are located within one-quarter mile of the project site.

TOXIC EMISSION SOURCES

Toxic air contaminants (TACs) refer to a diverse group of "non-criteria" air pollutants that can affect human health, but do not have established ambient air quality standards. TACs are classified as carcinogenic and noncarcinogenic, where carcinogenic TACs can cause cancer and noncarcinogenic TACs can cause acute and chronic impacts to different target organ systems (e.g., eyes, respiratory, reproductive, developmental, nervous, and cardiovascular). DPM, which is emitted in the exhaust from diesel engines, was listed by the State as a TAC in 1998. DPM has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. DPM consists of fine particles (fine particles have a diameter less than 2.5 μm), including a subgroup of ultrafine particles (ultrafine particles have a diameter less than 0.1 μm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances. Exposure to DPM may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. DPM levels and resultant potential health effects may be higher in close proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities.

According to CARB, there are no existing sources of industrial- or utility-related toxic emissions uses within one-quarter mile of the project site (CARB 2015b).[11] Additionally, the proposed project does not contain equipment or otherwise attract mobile sources (such as high volume trucks) that could emit high levels of DPM.

LOCAL TRANSPORTATION

Vehicular access to the health club would be provided from Rossmoor Center Way via two existing driveways: a 40-foot-wide driveway just west of the proposed project site (which would be converted to a 36-foot driveway to accommodate proposed new parking) and a 36-foot-wide driveway just east of the proposed project site. Both driveways currently provide ingress and egress in a north-south direction into and out of the Shops at Rossmoor shopping center onto Rossmoor Center Way.

The Traffic Impact Analysis (TIA) prepared for the project analyzed existing performance at 11 roadway segments and 15 intersections in the project vicinity (LSA 2016).[12] A majority of the roadway segments identified in the TIA operate at level of service (LOS) B during peak hours under existing conditions, with none of these intersections operating at LOS D or worse (with the exception of Saint Cloud Drive between Seal Beach Boulevard and Yellowtail Drive during the morning peak hour). Four key intersections operate at LOS D during peak hours under existing conditions.

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[11] California Air Resources Board (CARB) 2015b. *Facility Search Results: City of Seal Beach.* Database year 2015. Web. January 2017. <https://www.arb.ca.gov/app/emsinv/facinfo/faccrit.php?dd=&grp=1&sort=FacilityNameA&dbyr=2015&ab_=SC&dis_=&co_=30&fname_=&city_=Seal+Beach&fzip_=&fsic_=&facid_=&all_fac=C&displayit=Pollutant&showpol=&showpol2=/>.

[12] LSA 2016. *Traffic Analysis: Health Club Within the Shops at Rossmoor*. Prepared for the City of Seal Beach. December 2016.

Odors

According to the *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed project is not a use generally associated with substantial odors as identified by SCAQMD.

Existing Emissions

The project site currently consists of parking spaces in a parking lot that serves the existing Shops at Rossmoor shopping center. Therefore, currently there are no direct emissions associated with the area of land where the health club would be located. As a conservative approach, all emissions related to project construction and operation are treated as new emissions.

Planning and Regulatory Framework

Clean Air Act

The Federal Clean Air Act (CAA) defines the U.S. EPA's responsibilities for protecting and improving the United States air quality and ozone layer. Key components of the CAA include reducing ambient concentrations of air pollutants that cause health and aesthetic problems, reducing emission of toxic air pollutants, and stopping production and use of chemicals that destroy the ozone.

Federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop State Implementation Plans (SIPs); comprehensive documents that identify how an area will attain NAAQS. Deadlines for attainment were established in the 1990 amendments to the CAA based on the severity of an area's air pollution problem. Failure to meet air quality deadlines can result in sanctions against the State or the EPA taking over enforcement of the CAA in the affected area. SIPs are a compilation of new and previously submitted plans, programs, district rules, and State and federal regulations. The SCAQMD implements the required provisions of an applicable SIP through its AQMP.

California Clean Air Act

The California Clean Air Act (CCAA) of 1988 was enacted to develop plans and strategies for attaining California Ambient Air Quality Standards (CAAQS). The CARB, which is part of the California Environmental Protection Agency (Cal-EPA), develops statewide air quality regulations, including industry-specific limits on criteria, toxic, and nuisance pollutants. The CCAA is more stringent than federal law in a number of ways, including revised standards for PM_{10} and ozone and State for visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

2012 Air Quality Management Plan

The purpose of an AQMP is to bring an air basin into compliance with federal and State air quality standards and is a multi-tiered document that builds on previously adopted AQMPs. The 2003 AQMP was adopted in August 2003 and demonstrated O_3 and PM_{10} for the Basin. It also provides the maintenance plans for CO and NO_2, which the Basin has been in attainment for since 1997 and 1992, respectively. The 2007 AQMP for the Basin was approved by the SCAQMD Board of Directors in June 2007.

The 2007 AQMP builds on the 2003 AQMP and is designed to address the federal 8-hour ozone and $PM_{2.5}$ air quality standards. The AQMP identifies short- and long-term control measures designed to reduce stationary, area, and mobile source emissions, organized into four primary components:

1. District Stationary and Mobile Source Control Measures
2. Air Resources Board (ARB) State Strategy
3. Supplement to ARB Control Strategy
4. SCAG Regional Transportation Strategy and Control Measures

The 2012 AQMP further builds on the 2007 AQMP to address the federal $PM_{2.5}$ air quality standard, as well as proactively addressing the federal 8-hour ozone air quality standard to be attained by 2023. Overall, the 2012 AQMP projected a three percent reduction in NOx and 17 percent reduction in $PM_{2.5}$ emissions by 2014, and a three percent reduction in NOx and one percent reduction in VOC emissions by 2023 compared to respective 2014 and 2023 projected baselines for each pollutant. The AQMP anticipated attainment of the 24-hour $PM_{2.5}$ standard by 2014 and attainment of the 8-hour ozone standard by 2023.

Stationary source control measures in the 2012 AQMP are based on implementation of all feasible control measures through the application of available cleaner technologies, best management practices, incentive programs, as well as development and implementation of zero- and near-zero technologies and control methods. These would be applied to both point source (typically facilities permitted by SCAQMD) as well as area sources associated with smaller/non-permitted emissions. Notable $PM_{2.5}$ stationary control measures that will begin implementation in 2013 include further reductions from the Regional Clean Air Incentives Market (RECLAIM) NOx and SOx cap-and-trade program, further reductions from residential and open wood burning, and reductions from under-fired charbroilers. Notable ozone stationary control measures that began implementation in 2015 include targeting reducing emissions from coatings and solvents, combustion sources, petroleum operations and fugitive volatile organic compounds (VOCs), as well as incentive and education programs.

Mobile source reduction includes actions seeking further emission reductions from both on-road and off-road mobile sources, such as accelerated penetration of zero- and near-zero emission vehicles and early retirement of older vehicles, as well research and development of advanced control technologies from various mobile sources. These measures are designed to achieve attainment for both $PM_{2.5}$ and ozone; however, greater reductions in ozone are necessary to achieve attainment, so a more robust program to reduce NOx emissions that contribute to ozone levels to evaluate, develop, demonstrate, fund, and deploy new technologies is designed to achieve the necessary reductions. NOx emissions contribute greatly to ozone levels and are the primary target for reduction to achieve ozone attainment.

SCAG's Regional Transportation Strategy and Transportation Control Measures included in SCAG's *2012 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) are designed to expand infrastructure to limit congestion and expand transportation choices, as well as encourage population and employment growth in high-quality transit areas to make transit more feasible. While these measures are primarily intended to affect road congestion and transportation choices, they also can help achieve substantial measurable reductions in emissions that are incorporated into the 2012 AQMP.

The SCAQMD is the in process of preparing the 2016 AQMP. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2016).[13]

SCAQMD RULE BOOK

To control air pollution in the Basin, the SCAQMD adopts rules that establish permissible air pollutant emissions and governs a variety of businesses, processes, operations, and products to implement the AQMP and the various federal and state air quality requirements. SCAQMD does not adopt rules for mobile sources; those are established by CARB or the U.S. EPA. Rules that will be applicable during construction of the proposed project include Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). Rule 403 prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent opacity in the air). Rule 403

[13] South Coast Air Quality Management District (SCAQMD) 2016. *Air Quality Management Plan*. "2016 Air Quality Management Plan Development." Web. January 2017. <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/>.

requires the implementation of Best Available Control Measures (BACM). SCAQMD Rule 403, Table 1, provides measures for construction activities to reduce fugitive dust. This includes measures for the application of water or stabilizing agents to prevent generation of dust plumes, pre-watering materials prior to use, use of tarps to enclose haul trucks, stabilizing sloping surfaces using soil binders until vegetation or ground cover effectively stabilize slopes, hydroseed prior to rain, washing mud and soils from equipment at the conclusion of trenching activities (see SCAQMD Rule 403, Table 1, for additional details). SCAQMD Rule 1113 establishes maximum concentrations of VOCs in paints and other applications and establishes the limits for low-VOC coatings.

Environmental Impacts

THRESHOLDS OF SIGNIFICANCE

The proposed project could result in potentially significant impacts related to air quality if it:

A. Conflicts with or obstructs implementation of the applicable air quality plan.
B. Violates any air quality standard or contributes substantially to an existing or projected air quality violation.
C. Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
D. Exposes sensitive receptors to substantial pollutant concentrations.
E. Creates objectionable odors affecting a substantial number of people.

To determine if maximum daily criteria pollutant emissions from construction and operation of the proposed project would be significant under thresholds B and D, this DEIR uses the SCAQMD significance thresholds identified in Table 4-5 below. These thresholds are utilized for the project specific analysis as well as determining whether the project would contribute a cumulatively considerable increase in emissions.

Table 4-5
SCAQMD Maximum Daily Emissions Thresholds
(lbs/day)

Pollutant	Construction	Operation
NO_X	100	55
VOC/ROG	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3
Source: SCAQMD 2014		

In addition to the Maximum Daily Emissions Thresholds, the SCAQMD has developed Localized Significance Thresholds (LSTs) which represent the maximum emissions from a project (for NOx, CO, PM_{10}, and $PM_{2.5}$) that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard. These LSTs are developed based on the ambient concentrations of that pollutant for each SRA and distance to the nearest sensitive receptor. The nearest sensitive receptor is located to the north, approximately 80 feel (25 meters) from where project construction would commence. Although it is voluntary to apply the LSTs to projects, comments were received from the SCAQMD during the NOP process, recommending LSTs be addressed and presented in the EIR. Table 4-6 below presents the LSTs for a two-acre development in SRA 18, at a distance of 80 feet.[14].

[14] Although the total project area consists of approximately five acres, only approximately two of those five acres would be disturbed. Thus, as a conservative approach, the LSTs for two-acres is presented and used in the subsequent analysis.

Table 4-6
SCAQMD LSTs for SRA 18 at 25 Meters (approx. 80 feet)
(lbs/day)

Pollutant	Construction	Operation
NO_2	131	92
PM_{10}	7	2
$PM_{2.5}$	5	2
CO	962	962
Source: SCAQMD 2009		

Impact 4.3. A The proposed project would not conflict with or obstruct implementation of the South Coast Air Basin 2012 Air Quality Management Plan.

A significant impact could occur if the proposed project conflicts with or obstructs implementation of the South Coast Air Basin 2012 Air Quality Management Plan. Conflicts and obstructions that hinder implementation of the AQMP can delay efforts to meet attainment deadlines for criteria pollutants and maintaining existing compliance with applicable air quality standards. Pursuant to the methodology provided in Chapter 12 of 1993 SCAQMD *(CEQA Air Quality Handbook)*, consistency with the South Coast Air Basin 2012 AQMP is affirmed when a project: (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation and (2) is consistent with the growth assumptions in the AQMP (SCAQMD 1993).[15] Consistency review is presented below.

(1) The project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance emissions thresholds established by the SCAQMD, as demonstrated in Section 4.3.B et seq. of this EIR; therefore, the project would not result in an increase in the frequency of any air quality standards violation and would not case a new air quality standards violation.

(2) The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and *significant projects*. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and off-shore drilling facilities. This project, construction of a health club facility, does not involve a General Plan Amendment, Specific Plan, and is not considered a *significant project*.

Based on the consistency analysis presented above, the proposed project would not conflict with the AQMP; no impact would occur.

Impact 4.3. B The proposed project would not violate any air quality standard or contribute substantially to an existing or project air quality violation.

A project may have a significant impact if project-related emissions would exceed federal, State, or regional standards or thresholds, or if project-related emissions would substantially contribute to existing or project air quality violations. The proposed project would generate short-term construction emissions and long-term operational emissions. As demonstrated below, short-term and long-term emissions would both have a less than significant impact on air quality when applying the SCAQMD's thresholds of significance presented in Tables 4-5 and 4-6.

[15] South Coast Air Quality Management District (SCAQMD) 1993. *CEQA Air Quality Handbook.* 1993.

CONSTRUCTION EMISSIONS

The California Emissions Estimator Model (CalEEMod), Version 2016.3.1 was utilized to estimate emissions from the proposed construction activities (see Appendix C). CalEEMod's default construction phase lengths were amended to account for an approximately six-month construction duration, which was presumed to begin in mid-2017. The maximum (summer and winter) results of the analysis are summarized in Table 4-7. It should be noted that the results presented in Table 4-7 include application of SCAQMD Rule 403 and require the utilization of applicable best management practices to minimize fugitive dust emissions. A 55 percent reduction in fugitive dust emissions is assumed based on control measures pursuant to SCAQMD 403 (Fugitive Dust). No criteria pollutants would exceed the daily emissions thresholds established by the SCAQMD; therefore, construction impacts would be less than significant.

Table 4-7
Maximum Daily Construction Emissions (lbs/day)

Year	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
2017						
Winter	3.2	26.8	16.4	<0.0	3.8	2.3
Summer	3.2	26.8	16.5	<0.0	3.8	2.3
2018						
Winter	28.6	25.1	22.9	<0.0	1.8	1.4
Summer	28.6	25.1	23.1	<0.0	1.8	1.4
SCAQMD Threshold	75	100	550	150	150	55
SRA LST	--	131	962	--	7	5
Potential Impact?	No	No	No	No	No	No

Source: MIG 2016, see Appendix C
Note: Volatile organic compounds are measured as reactive organic compounds

OPERATIONAL EMISSIONS

Long-term criteria air pollutant emissions would result from the operation of the health club. Long-term emissions are categorized as area source emissions, energy demand emissions, and operational emissions. Operational emissions would result from automobile and other vehicle sources associated with daily trips to and from the proposed health club. The CalEEMod modeling program was utilized to estimate mobile source emissions. Trip generation is based on the TIA prepared by LSA Associates, Inc. (LSA 2016)[16]. Area source emissions are the combination of many small emission sources that include use of outdoor landscape maintenance equipment, use of consumer products such as cleaning products, and periodic repainting of the proposed structure. Energy demand emissions result from use of electricity and natural gas. Emissions from area sources were estimated using CalEEMod using program default values for area and energy demand emissions. Operational emissions are summarized in Table 4-8. Long-term emissions would not exceed the daily thresholds established by the SCAQMD; impacts would be less than significant.

[16] Average daily traffic is presumed to be 1,218 trips, per the TIA's analysis.

Table 4-8
Long-Term Daily Emissions (lbs/day)

Year	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer						
Area Sources	0.9	0.0	0.0	0.0	0.0	0.0
Energy Demand	0.0	0.2	0.2	0.0	0.0	0.0
Mobile Sources	2.2	9.9	24.6	0.1	5.6	1.6
Summer Total	3.1	10.1	24.8	0.1	5.6*	1.6
Winter						
Area Sources	0.9	0.0	0.0	0.0	0.0	0.0
Energy Demand	0.0	0.2	0.2	0.0	0.0	0.0
Mobile Sources	2.1	10.1	23.7	0.1	<0.0*	1.6
Winter Total	3.1	10.3	23.9	0.1	<0.0*	1.6
SCAQMD Threshold	55	55	550	150	150	55
SRA 18 LST	--	92	962	--	2	2
Potential Impact?	No	No	No	No	No*	No

Source: MIG 2016
Note: Volatile organic compounds are measured as reactive organic compounds
* - This value reflects on-site emissions from mobile sources only. The proposed project would generate approximately 5.6 lbs of PM_{10} per day during operation both on-site and off-site. Based upon the CalEEMod default trip length of 20 miles, vehicles would spend less than one percent of their total trip at the project site. The SCAQMD guidance specifically states only the on-site emissions should be compared against the LST. Vehicles would only operate on-site when arriving to, or departing from the Health Club.

Impact 4.3. C The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Cumulative short-term, construction-related emissions and long-term, operational emissions from the project would not contribute considerably to any potential cumulative air quality impact because short-term project and operational emissions would not exceed any SCAQMD daily threshold. As required for the proposed project, other concurrent construction projects and operations in the region would be required to implement standard air quality regulations and mitigation pursuant to State CEQA requirements. Such measures include compliance with SCAQMD Rule 403, which requires actions to limit dust and particulate matter emissions. Impacts would be less than significant.

Impact 4.3. D The project would not expose sensitive receptors to substantial pollutant concentrations.

The nearest land uses that are considered sensitive receptors are the residential dwelling units located adjacent to the project site to the north and west. No schools are located within one-quarter mile of the project site. The proposed health club would not generate toxic pollutant emissions because the proposed fitness and gymnasium uses are characterized as typical commercial uses that do not produce such emissions. The proposed health club, therefore, would have a less than significant impact on sensitive receptors relating to toxic pollutant emissions.

In general, SCAQMD and the California Department of Transportation *Project-Level Carbon Monoxide Protocol* recommend analyzing CO hotspots when a project has the potential to result in higher CO concentrations within the region and increase traffic congestion at an intersection operating at LOS D or worse by more than two percent. A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections.

There has been a decline in CO emissions over the past two decades even though vehicle miles traveled on U.S. urban and rural roads have increased. Three major control programs have contributed to the reduced per vehicle CO emissions: exhaust standards, cleaner-burning fuels, and motor vehicle inspection/maintenance programs.

CO hotspots have the potential for violation of State and federal CO standards at study area intersections and exposure to sensitive receptors at those intersections is addressed using the methodology outlined in the California Department of Transportation *Project-Level Carbon Monoxide Protocol*. Section numbers for the CO Protocol are provided in parenthesis down in the analysis for ease of reference.

Local impacts from the project need to be examined because the project is not exempt from emissions analysis as defined by the CO Protocol (3.1.1, 3.1.2, 3.1.9). According to the CO Protocol, projects may worsen air quality if they significantly increase the percentage of vehicles in cold start modes (by two percent or more), significantly increase traffic volumes (by five percent or more) over existing volumes, or reduce average speeds on uninterrupted roadway segments (increase delays at intersections for interrupted roadway segments) (4.7.1). Based on the project traffic analysis that identifies net traffic volume changes between the existing parking use and the proposed health club, the proposed project would not increase vehicles operating in cold start mode in the morning, evening, or Saturday peak hours by more than two percent at any of traffic study intersections; therefore, impacts to sensitive receptors due to localized CO emissions would be less than significant.

As discussed under Impact 4.3.B, the project would not exceed the local significance thresholds developed by the SCAQMD. The proposed project would not expose sensitive receptors to substantial pollutant concentrations for PM_{10}, $PM_{2.5}$, and NO_2. This impact would be less than significant.

Impact 4.3. E The project would not create objectionable odors affecting a substantial number of people.

According to the *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. The proposed health club does not include any of the above noted uses or process; no impact would occur.

During construction, odors associated the use of asphalt for re-surfacing the parking lot would be present during and a short time after (a few hours) the asphalt is applied. The odor would affect only those people in relative close proximity (a few hundred feet) to the newly re-surfaced parking lot. The impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance with Mitigation Incorporated

Not applicable.

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4.2 Greenhouse Gases

This section provides information on the environmental and regulatory greenhouse gas setting of the proposed project and evaluates the potential amount of greenhouse gas (GHG) emissions that could be generated by construction and operation of the project. The methodologies and assumptions used in the preparation of this section utilize the South Coast Air Quality Management District (SCAQMD) interim GHG significance thresholds, which were based on guidance provided in the California Air Pollution Control Officers Association (CAPCOA) *CEQA and Climate Change* white paper. Potentially applicable federal, State, and local regulations were obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. As described in this section, the proposed project's greenhouse gas emissions would not exceed the CEQA significance threshold developed by the SCAQMD. Therefore, the proposed project would not result in a significant impact. Mitigation measures are not necessary.

Environmental Setting

Gases that trap heat in the atmosphere and affect regulation of the earth's temperature are known as greenhouse gases. Many chemical compounds found in the earth's atmosphere exhibit the GHG property. GHG allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, it is either absorbed or reflected back toward space. Earth that has absorbed sunlight warms up and emits infrared radiation toward space. GHG absorb this infrared radiation and "trap" the energy in the earth's atmosphere. Entrapment of too much infrared radiation produces an effect commonly referred to as "global warming."

GHG that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low-oxygen environments such as swamps or exposed permafrost (methane). However, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880), and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800s to 404 ppm in December 2016 (NOAA 2017).[1] The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific greenhouse gases—carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride—and two groups of gases—hydrofluorocarbons and perfluorocarbons. These GHG are the primary GHG emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. Black carbon consists of particles emitted during combustion; although a particle and not a gas, black carbon also acts to trap heat in the Earth's atmosphere. The six common GHG are described below.

- Carbon Dioxide (CO_2). CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.

[1] National Oceanic and Atmospheric Administration (NOAA) 2017. "Mauna Loa CO_2 Monthly Mean Data." *Trends in Atmospheric Carbon Dioxide*. NOAA, Earth System Research Laboratory, Global Monitoring Division. January 6, 2017. Web. January 9, 2017. <http://www.esrl.noaa.gov/gmd/ccgg/trends/>.

- Methane (CH_4). CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.

- Nitrous Oxide (N_2O). N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.

- Sulfur Hexafluoride (SF_6). SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.

- Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs). HFCs and PFCs are generated in a variety of industrial processes. Although the amount of these gases emitted into the atmosphere is small in terms of their absolute mass, they are potent agents of climate change due to their high global warming potential.

GHG can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. The GWPs and estimated atmospheric lifetimes of the common GHG are shown in Table 4.2-1.

Table 4.2-1
Global Warming Potential (GWP) of Common GHG (100 Year Horizon)

GHG	GWP(A)	GHG	GWP(A)
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	25	CF_4	6,500
Nitrous Oxide (N_2O)	298	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	14,800	C_6F_{14}	7,400
HFC-134a	1,430	Sulfur Hexafluoride (SF_6)	22,800
HFC-152a	140		
HCFC-22	1,700		

Source: California Air Resources Board (CARB) 2014. *First Update to the Climate Change Scoping Plan*. Sacramento, CA. May 2014.
(A) GWPs are based on the United Nations Intergovernmental Panel on Climate Change 4th Assessment Report.

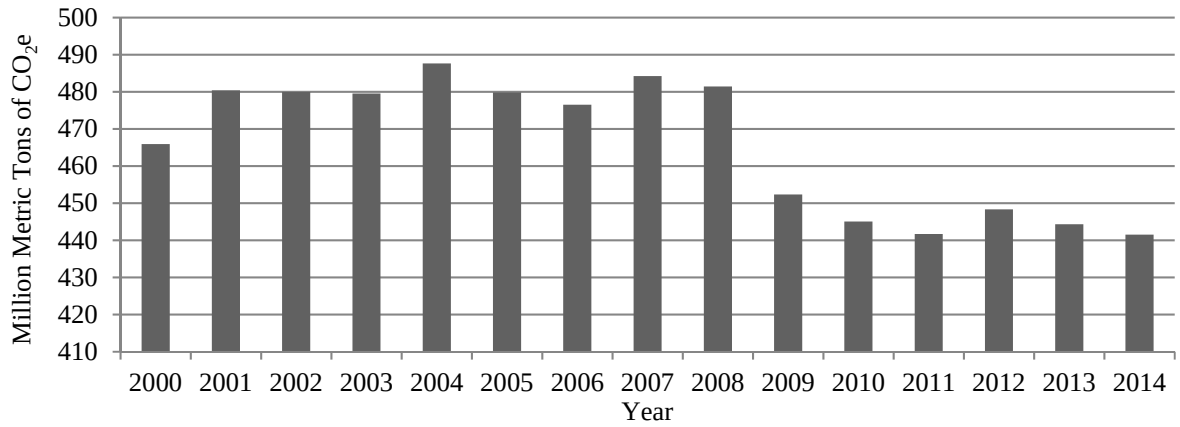
STATE GHG EMISSIONS LEVELS

CARB prepares an annual statewide GHG emissions inventory using regional, State, and federal data sources, including facility-specific emissions reports prepared pursuant to state's Mandatory GHG Reporting Program. The statewide GHG emissions inventory helps CARB track progress towards meeting the state's AB32 GHG emissions target of 431 million metric tons of CO_2 equivalents ($MMTCO_2e$), as well as establish and understand trends in GHG emissions[2]. Statewide GHG emissions for the 2004 to 2014 time period are shown in Table 4.2-2.

[2] CARB approved the use of 431 $MMTCO_2e$ as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 $MMTCO_2e$.

Table 4.2-2
Statewide GHG Emissions (MMTCO2e) (2004 – 2014)

Scoping Plan Sector	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14
Agriculture	34	34	36	36	36	34	35	36	37	35	36
Commercial/Residential	44	42	43	43	44	44	45	46	43	43	38
Electric Power	115	108	105	114	120	101	90	88	95	90	88
High GWP	7	8	8	9	10	11	12	14	15	16	17
Industrial	98	95	93	90	90	88	91	90	91	93	93
Recycling and Waste	8	8	8	8	8	8	9	9	9	9	9
Transportation	182	184	184	184	173	166	163	159	159	158	160
TOTAL $MMCO_2e$(A)	488	480	476	484	481	452	445	442	448	444	442



Source: California Air Resources Board (CARB) 2016. California Greenhouse Gas Emission by Scoping Plan Category (Ninth Edition: 2000 to 2014). Sacramento, Ca. March 30, 2016.

(A) Totals may not equal due to rounding. CARB GHG inventory uses GWPs based on the U.N. IPCC's 4th Assessment Report.

As shown in Table 4-2, statewide GHG emissions have generally decreased over the last decade, with 2014 levels (442 $MMTCO_2e$) approximately nine percent less than 2004 levels (488 $MMTCO_2e$). The transportation sector (160 $MMTCO_2e$) accounted for more than one-third (approximately 36%) of the State's total GHG emissions inventory (442 $MMTCO_2e$) in 2014.

Planning and Regulatory Framework

U.S. EPA GHG TAILORING RULE AND GHG REPORTING SYSTEM

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six Kyoto GHGs (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) in the atmosphere threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHG are pollutants under the federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 MTCO2e. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat greenhouse gases as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the Clean Air Act's Prevention of Significant Deterioration or Title V operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 MTCO2e or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisions.

AB32 (California Global Warming Solutions Act) and Related GHG Rules

In 2006, the California State Legislature adopted the California *Global Warming Solutions Act of 2006*, Assembly Bill (AB) 32, which required CARB to: 1) determine 1990 statewide GHG emissions, 2) approve a 2020 statewide GHG limit that is equal to the 1990 emissions level, 3) adopt a mandatory GHG reporting rule for significant GHG emission sources, 4) adopt a Scoping Plan to achieve the 2020 statewide GHG emissions limit, and 5) adopt regulations to achieve the maximum technologically feasible and cost-effective reductions.

In 2007, CARB approved a statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 $MMTCO_2e$, which was subsequently increased to 431 MMCO2e. (CARB 2007, 2014).[3] In 2008, CARB adopted its *Climate Change Scoping Plan*, which projects, absent regulation or under a "business as usual" (BAU) scenario, 2020 statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies the numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of reductions and reduce statewide GHG emissions to 1990 levels by 2020 (CARB 2009a).[4] In 2011, CARB released a supplement to the 2008 *Scoping Plan Functional Equivalent Document* (FED) that included an updated 2020 BAU statewide GHG emissions level projection of 507 million $MTCO_2e$ (CARB 2011),[5] and in 2014 CARB adopted its First Update to the Climate Change Scoping Plan (CARB 2014). The First Update to the Scoping updated the 2020 BAU statewide emissions project to account for changes in economic forecasts of fuel and energy demand and other factors. Using 2009 to 2011 as the base year, the 2014 Scoping Plan Update reset the 2020 statewide BAU emissions projection at 509 MMTCO2e. CARB is in the process of developing a second update, the 2017 Climate Change Scoping Plan Update, to reflect the 2030 target set by Executive Order B-30-15 and codified by SB-32, which are discussed below.

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, sets a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. By directing state agencies to take measures consistent with their existing authority to reduce GHG emissions, this order establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign SB 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target to reduce GHG emissions by 40 percent below 1990 levels by 2030 a requirement as opposed to a goal. AB-197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the state's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

There are five key goals for reducing GHG emissions in California through 2030: (1) increase renewable electricity to 50 percent; (2) double energy efficiency savings achieved in existing buildings and make heating fuels cleaner; (3) reduce petroleum use in cars and trucks by up to 50 percent; (4) reduce emissions of short-lived climate pollutants, and (5) manage farms, rangelands, forests and wetlands to increasingly store carbon. In addition, the order requires CARB to work closely with other state agencies and the public to update the state's climate change Scoping Plan, scheduled for completion and adoption in the spring of 2017.

Under the Scoping Plan, approximately 85 percent of the State's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance

[3] California Air Resources Board (CARB) 2007. Staff Report California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. Sacramento, CA. November 16, 2007. California Air Resources Board (CARB) 2014. *First Update to the Climate Change Scoping Plan*. Sacramento, CA. May 2014.

[4] California Air Resources Board (CARB) 2009a. Climate Change Scoping Plan – A Framework for Change. Endorsed by ARB December 2008.Sacramento, CA. May 11, 2009.

[5] California Air Resources Board (CARB) 2011. Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. Released August 19, 2011. Sacramento, CA. Approved August 24, 2011. http://www.arb.ca.gov/cc/scopingplan/fed.htm

obligations. It is expected that emission reduction from this cap-and trade program will account for a large portion of the reductions required by AB 32. Execution of AB- 97 may come at the expense of the Cap-and-Trade Program, as Section 5 of the bill directs CARB to target programs toward "direct" emissions reductions, such as industry and cars.

CALIFORNIA GREEN BUILDING STANDARDS

The 2013 California Green Building Standards Code (CALGREEN) went into effect on January 1, 2014. The purpose of the addition to the California Building Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings using concepts to reduce negative impacts or produce positive impacts on the environment. The CALGREEN regulations cover planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality. Many of the new regulations have the effect of reducing greenhouse gas emissions from the operation of new buildings.

Environmental Impacts

THRESHOLDS OF SIGNIFICANCE

The proposed project could result in potentially significant impacts related to greenhouse gas emissions and global climate change if it would:

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of greenhouse gases.

On December 5, 2008, the SCAQMD Governing Board adopted interim GHG significance thresholds. These thresholds were based on guidance provided in the CAPCOA *CEQA and Climate Change* white paper; thus, a non-zero threshold based on Approach 2 of the handbook will be used (CAPCOA 2008).[6] Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by the SCAQMD using this method is 3,000 metric tons carbon dioxide equivalent ($MTCO_2e$) per year for residential and commercial projects [7] (SCAQMD 2010).[8]

Pursuant to Section 15064.4 of the CEQA Guidelines, a lead agency has the discretion, in evaluating the significance of GHG emissions in the context of a particular project, to consider the "extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." As such, the City of Seal Beach is applying SCAQMD's 3,000 $MTCO_2e$ threshold for determining the proposed project's GHG emissions significance.

Impact 4.2.A **The proposed project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment.**

The proposed project would generate GHG emissions from construction and operation of the new health club. As described in Section 4.1, Air Quality, project emissions were quantified using the California Emissions Estimator Model (CalEEMod), Version 2016.3.1 to determine if the project could have a cumulatively considerable impact related to greenhouse gas emissions (see Appendix C). These emissions, presented in Table 4.2-3, account for GHG emissions from construction activities and operational activities.

6 California Air Pollution Control Officers Association (CAPCOA) 2008. *CEQA & Climate Change*. January 2008.

7 This threshold is based on the review of 711 CEQA projects.

8 South Coast Air Quality Management District (SCAQMD) 2010. CEQA Significance Thresholds Working Group. Meeting #15, Main Presentation. September 28, 2010.

Operational emissions associated with the proposed project would include GHG emissions from mobile sources (transportation), energy, water use and treatment, waste disposal, and area sources. GHG emissions from electricity use are indirect GHG emissions from the energy (purchased energy) that is produced offsite. Area sources are owned or controlled by the project (e.g., natural gas combustion, boilers, and furnaces) and produced onsite. Construction activities are short term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. Because of this difference, SCAQMD recommends amortizing construction emissions over a 30-year operational lifetime. This normalizes construction emissions so that they can be grouped with operational emissions to generate a precise project-based GHG inventory.

Table 4.2-3
Project Construction and Operational GHG Emissions (MMTCO2e)

Source	GHG Emissions (Metric Tons/YR)			
	CO_2	CH_4	N_2O	Total*
Construction				
Grand Total	106.0	<0.0	<0.0	106.5
30-Year Amortization	*3.5*	*<0.0*	*<0.0*	*3.6*
Operational				
Area	<0.0	0.0	0.0	<0.0
Energy	158.6	<0.0	<0.0	159.2
Mobile	1,103.6	0.1	0.0	1,105.1
Solid Waste	42.8	2.5	0.0	106.1
Water and Wastewater	14.5	0.1	<0.0	106.1
Total	1,319.5	2.7	<0.0	1,476.5
Total Construction + Operational	1,323.0	2.7	<0.0	1,480.1
Proposed SCAQMD Screening Threshold				3,000
Exceeds Screening Threshold?				No

Source: MIG 2016, see Appendix C
* $MTCO_2e$/YR
Notes: Slight variations may occur due to rounding. Construction emissions amortized over 30 years.

As described above, on December 5, 2008, the SCAQMD Governing Board adopted interim GHG significance threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* white paper. Application of the latest threshold developed by the SCAQMD using Approach 2 in the handbook resulted in a quantitative GHG threshold of 3,000 $MTCO_2e$ per year for residential and commercial projects. GHG emissions with the proposed project would not exceed the 3,000 $MTCO_2e$ threshold; therefore, the impact would be less than significant.

Impact 4.2.B The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Seal Beach has adopted the 2013 edition of the CBC (Title 24), including CALGREEN. The project would be subject to CALGREEN standards, which require that new development projects reduce water consumption, employ building commissioning to increase building system efficiencies for large buildings, divert construction waste from landfills, and utilize low pollutant-emitting finish materials. The proposed project does not include any feature (i.e., substantially alter energy demands) that would interfere with implementation of these state and City codes and plans. The City of Seal Beach does not have any additional plans, policies, standards, or regulations related to climate change and GHG

emissions. Also, no other government-adopted plans or regulatory programs in effect at this time have established a specific performance standard to reduce GHG emissions from a single building project. No impact would occur.

Mitigation Measures

No mitigation measures are required.

Level of Significance with Mitigation Incorporated

Not applicable.

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4.3 Noise

This section analyzes potential noise impacts that could result from construction and operation of the proposed health club. This section summarizes the analysis and findings of the January, 2017 Noise Study prepared by Veneklasen Associates. The full noise study is contained in Appendix D.

Environmental Setting

CHARACTERISTICS OF NOISE

Noise generally is defined as unwanted sound and can be an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, causes actual physical harm, or has an adverse effect on health.

People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." However, the sound pressure magnitude can be objectively measured and quantified using a logarithmic ratio of pressures which yields the level of sound, utilizing the measurement scale of decibels (dB). The decibel is generally adjusted to the A-weighted level (dBA) which de-emphasizes very low frequencies to better approximate the human ear's range of sensitivity. In practice, the noise level of a sound source is measured using a sound level meter that includes an electronic filter corresponding to the A-weighting curve. Table 4.3-1 defines the decibel along with other technical terms used in this analysis.

Table 4.3-1
Definitions of Noise-Related Terms

Term	Definition
Decibel, dB	A unit describing the amplitude of sound equivalent to 20 times the logarithm, to the base 10, of the ratio of the pressure of the sound to the reference pressure of 20 μPa.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured in an A-weighting filter network. The A-weighting de-emphasizes the very low frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are in the A-weighted scale.
L_0 (L_{max}), L_2, L_8, L_{25}, L_{50}	The A-weighted noise levels that are exceeded 0 percent (maximum noise level), 2 percent, 8 percent, 25 percent, and 50 percent of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the stated measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 P.M. to 10:00 P.M., and after addition of 10 decibels to noise levels in the night between 10:00 P.M. and 7:00 A.M.
Day-Night Noise Level, DNL, Ldn	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 P.M. and 7:00 A.M.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Impulsive Noise	Sound of short duration. Typically associated with an abrupt onset and rapid decay (i.e., gun-shots, etc.).

Table 4.3-1
Definitions of Noise-Related Terms

Term	Definition
Pure Tones	A sound wave, residing over a small range of frequencies, which has a sinusoidal behavior over time.
VdB	Unit of measurement used by FHWA to describe ground-borne vibration. Equivalent to 20 times the logarithm, to the base 10, of the ratio of the root mean square ground-borne velocity to the reference of reference of $1x10^{-6}$ in/sec.

Even though the A-weighted scale accounts for the relative loudness perceived by the human ear and, therefore, is commonly used to quantify individual events or general community sound levels, the degree of annoyance or other response effects also depends on several other perceptibility factors, including:

- Ambient (background) sound level
- Magnitude of the event sound level relative to the background noise
- Spectral (frequency) composition (e.g. presence of tones)
- Duration of the sound event
- Number of event occurrences, repetitiveness, and intermittency
- Time of day the event occurs

In determining the daily level of environmental noise, it is important to account for the difference in human responses to daytime and nighttime noises. At night, exterior background noise levels are generally lower than daytime levels. However, most household noise also decreases at night, and exterior noise may become increasingly noticeable. Further, most people sleep at night and have greater sensitivity to noise intrusion. To account for human sensitivity to nighttime noise levels, a 24-hour descriptor, the Community Noise Equivalent Level (CNEL) has been developed. The CNEL divides the 24-hour day into a daytime period of 7:00 A.M. to 7:00 P.M., an evening period from 7:00 P.M. to 10:00 P.M., and a nighttime period of 10:00 P.M. to 7:00 A.M. In determining the CNEL, noise levels occurring during the evening period are increase by 5 dB, while noise levels occurring during the nighttime period are increased by 10 dB to account for the greater sensitivity during the evening and nighttime periods. The effects of noise on people fall into three general categories:

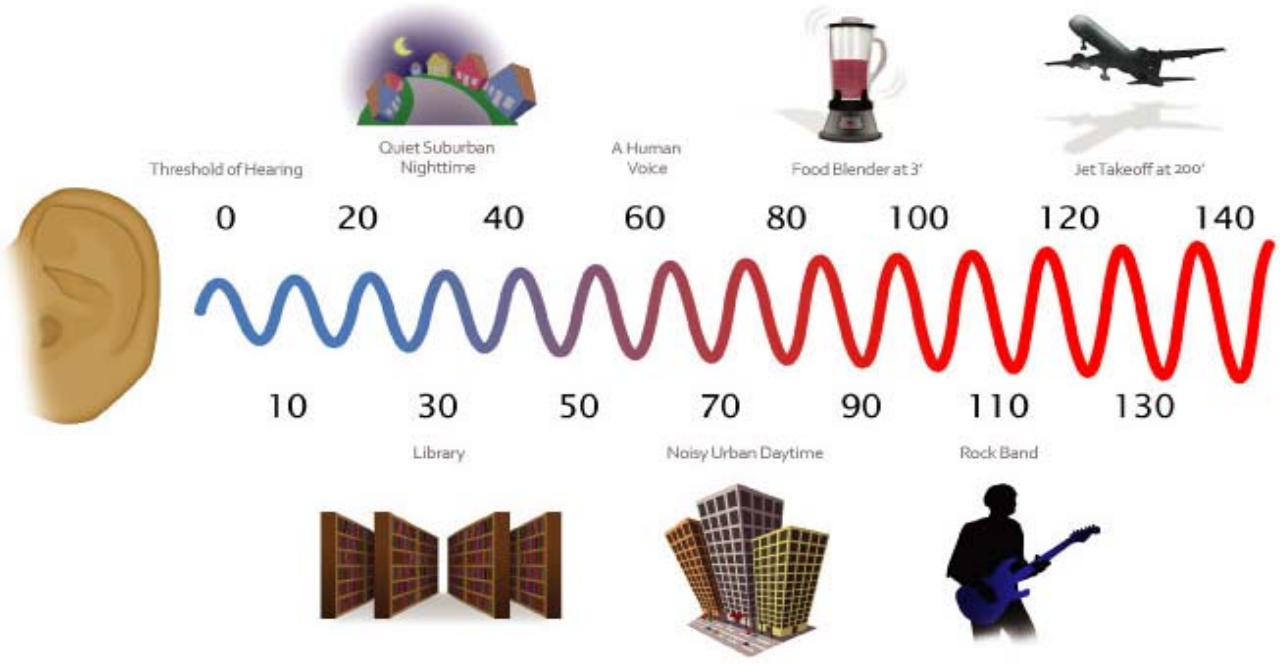
- Subjective effects of annoyance and nuisance
- Interference with activities such as speech, sleep and learning
- Physiological effects such as hearing loss

In most cases, the levels associated with environmental noise produce effects only in the first two categories. However, workers in industrial plants may experience noise effects in the last category. There is no completely effective way to measure the subjective effects of noise or the corresponding reactions of annoyance, because of the wide variation in individual thresholds of annoyance and degrees to which people become acclimated to noise. Thus, an important way of determining a person's subjective reaction to a new noise source is by comparison to the existing environment to which they are accustomed (the “ambient environment”). In general, the more the level of a noise event exceeds the prevailing ambient noise level, the less acceptable the noise source will be to those exposed to it. With regard to increases in A-weighted noise levels, the following relationships are applicable to this analysis:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived.
- Outside of a laboratory, a 3 dBA change will be generally perceivable by most people.
- A change in level of at least 5 dBA is considered a noticeable change by most people.
- A 10 dBA change will result in the perception of doubling or halving the loudness of the noise.

Common noise levels associated with various activities are shown on Exhibit 4.3-1, Common Noise Levels.

Exhibit 4.3-1
Common Noise Levels



Source: Veneklasen Associates

Noise sources are either "point sources," such as stationary equipment or individual motor vehicles, or "line sources," such as a roadway with a large number of mobile point sources (motor vehicles). Sound generated by a stationary point source typically diminishes (attenuates) at a rate of 6 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites, and at a rate of 7.5 dBA at acoustically "soft" sites.[1] For example, a 60 dBA noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dBA at 100 feet from the source and it would be 48 dBA at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling of distance from the source to the receptor for hard and soft sites, respectively.[2] Human-made or natural barriers can also attenuate sound levels. The minimum attenuation of exterior to interior noise provided by typical structures is provided in Table 4.3-2.

[1] U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 97. A "hard" or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt, concrete, and very hard packed soils. An acoustically "soft" or absorptive site is characteristic of normal earth and most ground with vegetation.

[2] U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 97.

Table 4.3-2
Outside to Inside Noise Attenuation (dBA)

Building Type	Open Windows	Closed Windows[1]
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/Convalescent Homes	17	25
Offices	17	25
Theaters	20	30
Hotels/Motels	17	25

Source: Transportation Research Board, National Research Council, Highway Noise: A Design Guide for Highway Engineers*, National Cooperative Highway Research Program Report 117.*

[1] *As shown, structures with closed windows can attenuate exterior noise by a minimum of 25 to 30 dBA.*

CHARACTERISTICS OF VIBRATION

Vibration is minute variation in pressure through structures and the earth, whereas, noise is minute variation in pressure through air. Some vibration effects can be caused by noise; e.g., the rattling of windows from truck passing. This phenomenon is related to the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Ground-borne vibration attenuates rapidly as distance from the source of the vibration increases. Vibration amplitude can be measured as peak particle velocity (PPV), the maximum instantaneous peak amplitude in inches per second, or root-mean-square (RMS) velocity in inches per second or as vibration level in decibels (VdB) referenced to one micro-inch per second. The ratio between the PPV and the maximum RMS amplitude is termed the "crest factor." According to the Federal Transit Administration (FTA), the PPV level for construction equipment is typically 1.7 to 6 times greater than the RMS vibration level. The FTA uses a crest factor of 4 for the conversion of PPV levels to RMS vibration levels. For the purposes of ground-borne vibration analysis of impacts to existing structures, vibration velocity is described in terms of PPV. For the analysis of the human response to vibration, VdB is utilized.[3]

The vibration velocity threshold of perception for humans is approximately 65 VdB, and a vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Common ground-induced vibrations related to roadway traffic and construction activities pose no threat to buildings or structures. If a roadway is smooth, the ground-borne vibration from traffic is barely perceptible. The range of interest is from approximately 50 VdB, which is typically the background vibration velocity, to 94 VdB. This 94 VdB vibration level corresponds to 0.2 PPV, which is the general threshold where minor damage can occur in non-engineered timber and masonry buildings.

EXISTING NOISE ENVIRONMENT

The proposed project site is currently used as parking for retail development within the Shops at Rossmoor. As such, the project site currently experiences frequent automobile arrivals and departures associated with use of the retail shops. While arrivals and departures associated with the retail uses occur during the posted store operating hours, arrivals and departures associated with unauthorized use of the lot during nighttime hours also may occur.

The project site is located on the rear/service side of existing retail stores to the east, meaning truck trailer loading docks are located in this area. Thus, this area experiences sporadic semi-truck deliveries during the daytime store

[3] U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, (Washington, DC: U.S. Department of Transportation, Federal Transit Administration, May 2006), p. 7-8.

operating hours, as observed during site visits. Truck trailer deliveries create temporary noise spikes with opening of trailer gates, extending of delivery ramps, and cold starting of diesel engines. Deliveries to the Shops at Rossmoor are limited to the hours of 7:00 A.M. and 8:00 P.M. Monday through Friday and 8:00 A.M. and 8:00 P.M. on weekends and holidays. The project building would shield the majority of the existing retail delivery area from the nearby residential complexes.

Existing Ambient Monitored Noise Levels. To establish existing ambient noise levels in residential areas surrounding the project site, a field monitoring study was conducted. Measurements were performed near the project site (see Exhibit 4.3-2, below) for documenting the ambient conditions. A Bruel & Kjaer Model 2270 Sound Level Meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation, was located on the property line of the residential complex to the west of the project site from 9:00 P.M. November 5 through 9:00 P.M. November 7, 2016. This captured both a full weekend 24 hours and weekday 24 hours. Noise readings were measured over five-minute intervals with "A" frequency fast time weighting. Table B.1 in Appendix B of Appendix D (Noise Assessment) provides the results from the long-term monitoring.

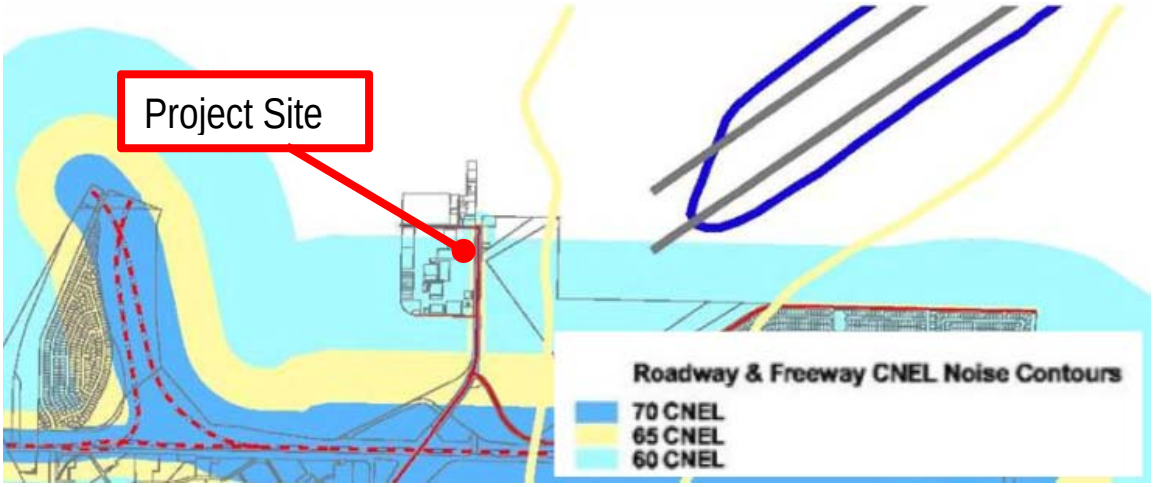
Exhibit 4.3-2
Project Site and Noise Monitoring Location

In general, the weather conditions were normal for the field monitoring study. The first night, a delivery truck stationed at the easternmost parking slots near Home Goods skewed the results higher than what is expected on most nights. The results cited below, and used for analysis, are the lower of the two nights; lower ambient levels provide less masking to any noise specifically from the project or its parking lot. The measurement location itself was also highly suited to measuring levels with the quietest ambient (most susceptible to disturbances) as it was away from any local street noise (parking lot car routes) and shielded from direct street noise.

Typical noise levels generated for the measurements were vehicular noise from local parking traffic and streets. Any human noises from the existing commercial neighbors or residential neighbors were averaged out of the levels reported.

Based on the long-term monitor measurements at the residences, the loudest one-hour LEQ was 53 dBA. In addition, a 56 CNEL was calculated at the residential units to the west. This is consistent with the General Plan Noise Element, which shows that the residential complexes are located partially within the projected 60 CNEL noise contour for roadway and freeway noise (Exhibit 4.3-3, below).

Exhibit 4.3-3
Future CNEL Noise Contours



Source: Veneklasen Associates

Planning and Regulatory Framework

Many government agencies have established noise regulations and policies to protect people from potential hearing damage and various other adverse physiological and social effects associated with noise and ground-borne vibration. The City of Seal Beach has adopted the General Plan Noise Element and a Noise Ordinance, which are based in part on federal and State regulations and are intended to control, minimize, or mitigate environmental noise effects. The regulations and policies that are relevant to project construction and operation noise are discussed below.

STATE OF CALIFORNIA – APPLICABLE NOISE STANDARDS

The CEQA Guidelines provide guidance for the evaluation of significant impacts of environmental noise attributable to a proposed project. The Guidelines ask whether the project would result in:

1. Exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or Noise Ordinance or applicable standards of other agencies.
2. Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
6. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The CEQA Guidelines and the City's Noise Element provide no definition of what constitutes a substantial noise increase. Typically, in high noise environments, if the CNEL due to the project would increase by 3 dBA at noise sensitive receptors, the impact is considered significant.

LOCAL

City of Seal Beach Noise Element and Municipal Code Noise Ordinance. The City of Seal Beach General Plan Noise Element establishes noise/land use compatibility criteria used for the purpose of siting new land ues. Multifamily residential uses can be considered normally acceptable within noise environments of up to 65 CNEL. Refer to Table 4.3-3 for noise limits.

Section 7.15.015 of the Seal Beach Municipal Code states that the noise level in a residential zone cannot exceed 55 dBA between 7:00 A.M. and 10:00 P.M. and 50 dBA between 10:00 P.M. and 7:00 A.M. These limits apply to cumulative period of more than 30 minutes in an hour. The limits increase by 5 dBA for a cumulative period of more than 15 minutes in an hour, 10 dBA for 5 minutes in an hour, 15 dBA for 1 minute in an hour, and 20 dBA for any period of time.

Section 7.15.025 states that noise related to construction performed between 7:00 A.M.. and 8:00 P.M. on weekdays and between 8:00 A.M. and 8:00 P.M.. on Saturdays is exempt from Code limits.

The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment document offers guidelines for assessment of construction noise that take into account the existing environment, absolute noise levels of construction activity, duration of construction activity, and adjacent land uses. Recognizing that construction activity is noisy, the FTA document provides the suggested mitigation to minimize construction noise impacts. Many jurisdictions, although not Seal Beach, have adopted such criteria for all construction projects.

1. When adjacent to occupied noise-sensitive land uses, implement a construction-related noise mitigation plan. This plan would depict the location of construction equipment storage and maintenance areas and document methods to be employed to minimize noise impacts on adjacent noise-sensitive land uses.

2. Construction equipment shall utilize noise-reduction features (e.g. mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

3. Haul truck deliveries are subject to the same hours specified for construction. Additionally, the plan shall denote any construction traffic haul routes where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings.

Section 7.15.035 states that building permits will not be issued if HVAC equipment noise exceeds 50 dBA at adjacent residential areas. It further states that building permits may be issued if a timing device deactivates the HVAC equipment between 10:00 P.M. and 7:00 A.M. and equipment noise does not exceed 55 dBA.

Table 4.3-3
Project Noise Restrictions

Activity	Standard
Exterior Noise at Multi-Family Residences	65 CNEL
Exterior Noise at Non-Residential	70 CNEL
Interior Noise in Non-Residential	50 dBA
Construction Noise	- Limited to the hours of: 7:00AM – 8:00PM Weekdays 8:00AM – 8:00PM Saturdays

Table 4.3-3
Project Noise Restrictions

Activity	Standard
Exterior Noise at Multi-Family Residences	65 CNEL
Operational Noise	At residential property, more than 30-minute duration: 55 dBA from 7:00 A.M. to 10:00 P.M. 50 dBA from 10:00 P.M. to 7:00 A.M. At residential property, 15 to 30-minute duration: 60 dBA from 7:00 A.M. to 10:00 P.M. 55 dBA from 10:00 P.M. to 7:00 A.M. At residential property, 5 to 15-minute duration: 65 dBA from 7:00 A.M. to 10:00 P.M. 60 dBA from 10:00 P.M. to 7:00 A.M. At residential property, 1 to 5-minute duration: 70 dBA from 7:00 A.M. to 10:00 P.M. 65 dBA from 10:00 P.M. to 7:00 A.M. At residential property, less than 1-minute duration: 75 dBA from 7:00 A.M. to 10:00 P.M. 70 dBA from 10:00 P.M. to 7:00 A.M.
HVAC Equipment Noise	At residential property: 50 dBA anytime 55 dBA if non-operational from 10:00 P.M. to 7:00 A.M.

City of Seal Beach Noise Element – Groundborne Vibration. The City's Noise Element requires construction activity to comply with the local Noise Ordinance, which does not provide limits on groundborne vibration. The FTA Transit Noise and Vibration Impact Assessment document referenced above offers the following vibration criteria (Table 4.3-4).

Table 4.3-4
Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	Impact Levels (VdB)		
	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Building where vibration would interfere with interior operation	65[d]	65[d]	65[d]
Category 2: Residences and building where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

Vibration levels are measures in or near the vibration-sensitive use.

a. "Frequent Events" is defined as more than 70 vibration events of the same source per day.
b. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
c. "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
d. This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

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

Environmental Impacts

THRESHOLDS OF SIGNIFICANCE

The proposed project could result in a significant land use impact if it would result in:

A. Exposure of persons or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
B. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
C. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
D. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Impact 4.3. A The proposed project would not expose persons or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Impact would be less than significant.

Analysis of the existing and future noise environments presented in this section is based on technical reports, long and short-term noise monitoring, and noise prediction modeling. Traffic volumes utilized for future traffic noise calculations were based on information provided in the traffic study prepared by LSA Associates in January, 2017 for this project.

Using the LSA January, 2017 traffic study information, the changes in dBA levels were calculated for potential future noise conditions due to future traffic volumes associated with the proposed project and increases in background traffic. At approximately 1,000 feet from Seal Beach Boulevard, the residential neighbors are barely affected by traffic noise. Effects are similar for Montecito Road at approximately 450 feet away. Rossmoor Center Way traffic will have a greater influence due to its proximity. The calculated decibel effects due to traffic changes are shown in Table 4.3-5 below, regardless of distance to the residential complexes.

Table 4.3-5
Traffic Noise Levels (dBA) Increases over Time vs. 2016

Road	Opening Year (2018) No Project	Opening Year (2018) with Project	Future Year No Project	Future Year with Project
Seal Beach Blvd (avg. of segments north and south of Rossmoor Center Way) – Weekday/Saturday	0.20/0.24	0.27/0.29	0.54/0.58	0.60/0.62
Rossmoor Center Drive between Eastern and Western Internal Drives – Weekday/Saturday	0.04/0.04	1.30/0.79	0.39/0.39	1.56/1.09
Rossmoor Center Drive between Western Internal Drive and West Road – Weekday/Saturday	0.04/0.04	0.04/0.04	0.39/0.39	0.39/0.39
Rossmoor Center Drive between West Road and Montecito – Weekday/ Saturday	0.04/0.04	0.24/0.17	0.39/0.39	0.58/0.51

Table 4.3-5
Traffic Noise Levels (dBA) Increases over Time vs. 2016

Road	Opening Year (2018) No Project	Opening Year (2018) with Project	Future Year No Project	Future Year with Project
Montecito Blvd (avg. of segments north and south of Rossmoor Center Way) – Weekday/Saturday	0.07/0.09	0.11/0.12	0.42/0.44	0.45/0.46

With decibel increases of at most 1.5, the proposed project would not result in any new uses or traffic generation that would increase noise levels in the vicinity or expose the residential neighbors to levels above those that are deemed normally acceptable in the noise ordinance, or less than 60 CNEL. The impact would be less than significant.

Impact 4.3. B The proposed project would not expose persons to or generation of excessive groundborne vibration or groundborne noise levels.

The proposed project site is currently used as parking for retail development within the Shops at Rossmoor. Construction equipment associated with building the project would be the only vibration generating sources introduced by the project. The City of Seal Beach Municipal Code limits construction to specific hours of the day, with no construction activity permitted on Sundays.

The FTA document referenced above provides vibration criteria due to construction equipment as shown in Table 4.3-4, above, and Table 4.3-6, below. Using vibration levels of typical construction equipment given in the FTA document, vibration levels at receivers nearest the project site were calculated to be as indicated in Table 4.3-6. The distance loss was calculated using equations for ground-borne vibration published by the FTA, and the distance used was from the center of the building in the development that is closest to a sensitive receptor.

Table 4.3-6
Calculated Vibration Levels of Typical Construction Equipment to Nearest Sensitive Receptor

Equipment	Vibration Level at 25ft (VdB)	Vibration Level at Nearest Sensitive Receptor (VdB)	Vibration Criteria for Frequent Events (VdB)
Jack Hammer	79	49	72
Loaded Trucks	86	56	72
Large Bulldozer	87	57	72
Vibratory Roller	94	64	72

Based on calculations to the nearest sensitive receptor, the construction of the development is not anticipated to generate vibration levels that exceed criteria given by FTA document. Impact would be less than significant.

Impact 4.3. C The proposed project could create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to a rooftop HVAC unit. Impact would be less than significant with mitigation.

TRAFFIC NOISE

As indicated in Table 4.3-5, which shows decibel increases of no more than 1.5 dBA, the proposed project would not result in any new uses or traffic generation that would increase noise levels in the vicinity or expose the project site to levels above those that are deemed normally acceptable in the noise ordinance. Impact would be less than significant.

OPERATIONAL NOISE - INDOOR FITNESS ACTIVITIES

The proposed health club would host various exercise activities (e.g., treadmill running, weight lifting, basketball playing, and swimming), as well as classes (e.g., aerobics and cycling). Project floor plans shows that the basketball court and swimming pool would be located on the west side of the project building closest to the nearest residences. Rooms for exercise classes are shown on the east side of the building. Depending on the specific exercise activity, interior health club sound levels can range from 65 dBA to over 85 dBA with amplified music. Exterior wall and roof elements (e.g. stucco, metal decking, gypsum board or plywood sheathing) typically offer at least 40 dBA of sound reduction. Exterior doors and windows normally underperform walls and roofs by only offering 30 dBA of reduction. This assumes that doors include full perimeter weather stripping, which is typical for exterior doors. Plans show that the basketball court—as well as swimming pool and aerobics rooms—would have single doors that lead to the exterior.

These exterior doors are emergency exits that would not be used for normal entry into the health club. The plans show a vestibule at the main entrance to the health club. Based on expected noise reductions from exterior building elements, doors, and windows, noise levels due to exercise activity within the health club are calculated to be below Municipal Code limits during the day (55 dBA) and nighttime/early morning (50 dBA) at less than 40 dBA at the residences. Impact would be less than significant.

OPERATIONAL NOISE - OUTDOOR PARKING LOT ACTIVITIES

Operation of the proposed project would produce noise associated with such activities as vehicle traffic, delivery trucks, loud conversations, opening and closing of car doors, car horns, etc. in the adjacent parking lot. Since the project does not include a loading dock, it is assumed that delivery trucks would be relatively small, such as for delivering packages, rather than large tractor trailers used for transporting palletized goods. The mentioned noise sources above are typical of commercial/retail uses, including those existing today on site within the Shops at Rossmoor center. To understand how these activities generate noise, similar health clubs were observed in Culver City and Garden Grove as early as the 5:00 A.M. hour. At both sites, the fitness lot was unshielded from the highways, unlike the project site; street noise (not the fitness center or its respective parking lot activity) controlled both the constant and loud sporadic noise even at the early hour. While useful to observe these activities to apply to the project, the strong influence of the city streets made the data measured not clean enough to use in analysis for the new project site. To isolate offending noise sources for analysis, each of the anticipated noise sources within the project parking lot and listed above was individually measured separately.

Each isolated measured noise source was calibrated to the distance it was measured in a noise propagation model in Bruel & Kjaer Predictor 11.0. Then, the noise level reaching the residences to the west and north were calculated. The loudest noise source that was closest to thresholds in the Noise Ordinance was the car horn, which achieved 47 dBA at the west residential complex and 50 dBA at the north residential complex, assuming the noise would occur at parking lot locations as close as possible to the residences. Both these levels are well below the limit of 50 dBA (Noise Ordinance) + 20 dBA, as well as 41 dBA (actual quietest ambient level at the site) + 20 dBA. The horn noise would be audible at the residences compared to the ambient levels but would not exceed City-established noise thresholds. Noise associated with outdoor activity in the parking lot would be less than significant.

HVAC ROOFTOP UNIT NOISE

The health club would be served by 13 HVAC units located on the rooftop. Approximately one-half of the rooftop units would be located on the western half the building, and the remaining would sit on the eastern half. No screening is proposed. Based on manufacturer's sound data for the basis of design rooftop units, cumulative noise levels due to the project rooftop units are calculated to be 53 dBA at the nearest residential property line; this is calculated at maximum equipment operation, which is the worst-case scenario. This impact would be significant.

Mitigation options are available to suppress noise generated by the rooftop units to a point to achieve the Municipal Code limit of 50 dBA at the adjacent residential units. The noise consultant has provided options for reducing noise associated with operation of the HVAC units: 1) install an equipment screen or parapet on the roof, 2) install baffles/silencers/attenuators on the equipment, or 3) install quieter equipment that can be shown to achieve the

required standard. These mitigation options are described below in the Mitigation Measures section. With mitigation incorporated, the project's impact on ambient noise levels would be less than significant.

Impact 4.3. D	The proposed project could create substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project during project construction. Impact would be less than significant with mitigation.

Construction of the proposed project would generate temporary increased noise levels at the property line. While construction activity would be required to occur within the time periods established in the Noise Ordinance, peaks in construction equipment work could be considered objectionable by some residents in adjacent units. Mitigation Measure NOI-2 is included to reduce the potential effects of construction noise on adjacent properties. They have been separated via the City of Seal Beach General Plan requirements for construction and standard practices for acoustical control. With mitigation incorporated, the project's impact on ambient noise levels would be less than significant.

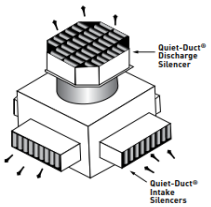
Mitigation Measures

Impact Noise-1: Cumulative noise levels due to operation of the project's HVAC rooftop units are calculated to be 53 dBA at the nearest residential property line, which exceeds the Municipal Code limit of 50 dBA. Thus, the rooftop units would potentially cause noise standard exceedances by 3 dBA, which could have a significant impact on nearby residences.

Mitigation Measure Noise-1: Since HVAC rooftop unit noise levels would exceed Municipal Code limits of 50 dBA, one of the three following options—or any other comparable approach that will achieve the required noise reduction—will be implemented by the project applicant. The project applicant will be required to submit a plan to the City, prepared by an acoustical engineer or otherwise qualified specialist, documenting that HVAC rooftop units and associated mitigating features will achieve the Municipal Code standard.

Mitigation Option 1. Install a screen or parapet around the HVAC units. To be an effective noise barrier, the screen or parapet should extend at least one foot above the tallest rooftop unit and be continuous at the north and west edges of the health club building.

Mitigation Option 2. Utilize baffles/silencers/attenuators. Each rooftop unit will be fully enclosed with noise control devices located at air ventilation to lessen the noise radiating from the equipment. A representative figure of this concept is shown to the right.



Mitigation Option 3. Install quieter HVAC units. Once specific HVAC rooftop units are selected, sound data from their manufacturer can be used to show that the Code limit of 50 dBA at nearby property lines will not be exceeded.

Impact Noise-2: Construction of the project would generate temporary increased noise levels at the property line of the project site. While construction activity would occur within the time periods established in the Noise Ordinance, peaks in construction equipment work could be considered objectionable by some residents in adjacent units.

Mitigation Measure Noise-2: During construction, the applicant/develop shall employ the following standard practices for mitigating construction noise:

- Implement a construction-related noise mitigation plan. This plan would depict the location of construction equipment storage and maintenance areas and document methods to be employed to minimize noise impacts on adjacent noise-sensitive land uses. Additionally, the plan shall denote any construction traffic haul routes where heavy trucks would exceed 100 daily trips (counting those both to and from the construction site). To

the extent feasible, the plan shall denote haul routes that do not pass sensitive land uses or residential dwellings.

- Equip internal combustion engine-driven equipment with original factory (or equivalent) intake and exhaust mufflers which are maintained in good condition.
- Prohibit and post signs prohibiting unnecessary idling of internal combustion engines.
- Locate all stationary noise-generating equipment such as air compressors and portable generators as far as practicable from noise-sensitive land uses.
- Utilize "quiet" air compressors and other stationary equipment where feasible and available.
- Designate a noise disturbance coordinator who would respond to neighborhood complaints about construction noise by determining the cause of the noise complaints, and require implementation of reasonable measures to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site.

Additionally, construction activity will be limited to the hours indicated in Table 4.3-3.

Impact with Implementation of Mitigation Measures

Impact would be less than significant with implementation of the mitigation measures.

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4.4 Traffic and Transportation

Based on the results of a Traffic Impact Analysis (TIA) prepared by LSA Associates in January, 2017, the proposed project can be implemented without impacting the design or the operation of the surrounding intersections and roadways with the implementation of project off-site improvements. These improvements consist of the extension of the northbound left-turn lane on Seal Beach Boulevard (see discussion below). The evaluation of intersection and roadway levels of service (LOS) shows that the addition of project traffic to existing, Project Completion Year (2018), and Future (2035) General Plan Buildout traffic volumes would not significantly impact the study area intersections or roadways according to City performance criteria.

Project access circulation and queuing were also analyzed. Based on the circulation and queuing analysis, the addition of project traffic would contribute to the northbound left-turn queue at the intersection of Seal Beach Boulevard and Rossmoor Center Way, which under conditions today is deficient. The extension of this northbound left-turn pocket is a project off-site improvement. Although not necessary to mitigate impacts of the project on traffic, the applicant proposes an option to widen Rossmoor Center Way to install a second westbound lane. This improvement provides a dedicated lane for turns into the health club parking lot, allowing no delays to through traffic travelling westbound on Rossmoor Center Way. These project off-site improvements are not required by the City or California Environmental Quality Act (CEQA) guidelines but have been evaluated to investigate concerns raised by the local community.

Environmental Setting

EXISTING AND SURROUNDING LAND USE

A project-specific traffic/circulation and parking analysis, authored by LSA Associates Inc. and dated January, 2017 (included in its entirely in Appendix E), was prepared to assess project traffic and parking impacts. The analysis was prepared consistent with the City Traffic Impact Study Guidelines (March 2010) and the City's General Plan (December 2003). The January, 2017 traffic study updated a previous traffic study completed for the same project in October, 2015. The 2016 TIA update is based on traffic counts collected in October, 2016.

The traffic analysis reviewed the weekday A.M., P.M., and weekend peak-hour level of service (LOS) at study intersections and roadway segments for the following scenarios:

1. Existing (2016) conditions with current occupancy of the Shops at Rossmoor retail center
2. Existing (2016) conditions with estimated full occupancy of the retail center
3. Existing (2016) conditions with estimated full occupancy of the Shops at Rossmoor retail center plus the proposed health club
4. Project Completion Year (2018) conditions with estimated full occupancy of the Shops at Rossmoor retail center
5. Project Completion Year (2018) conditions with estimated full occupancy of the Shops at Rossmoor retail center plus the proposed health club
6. Future (2035) General Plan Buildout conditions with estimated full occupancy of the Shops at Rossmoor retail center
7. Future (2035) General Plan Buildout conditions with estimated full occupancy of the Shops at Rossmoor retail center plus the proposed health club

STUDY AREA

Seal Beach Boulevard is a north-south arterial that provides access to both residential and commercial uses within the City of Seal Beach (4.4-1). Seal Beach Boulevard is a six-lane Major Arterial per the City's General Plan, which provides connection to Interstate 405 (I-405) and the Interstate 605 (I-605) (via Katella Avenue). The 1.2-mile section of Seal Beach Boulevard between I-405 and Bradbury Road provides connection to commercial uses both east and west of Seal Beach Boulevard via local collector streets. There are retail/commercial uses on either side of Seal Beach Boulevard between St. Cloud Drive and Bradbury Road. The Shops at Rossmoor retail/commercial center west of Seal Beach Boulevard

recently underwent modifications and changes at several locations and is close to full occupancy, with only one unoccupied restaurant space of 8,827 square feet (former Marie Callender's). Existing traffic along Seal Beach Boulevard includes the traffic from the occupied retail and restaurant space within the Shops at Rossmoor, as well as residential traffic from the Rossmoor community, but does not include traffic generated by the restaurant space that is currently unoccupied. In order to analyze the traffic conditions along Seal Beach Boulevard when the Shops at Rossmoor is fully occupied, traffic for the unoccupied restaurant space was added to existing traffic volumes.

The following roadway segments and intersections were analyzed based on City criteria for conducting traffic studies:

Roadway Segments

1. Seal Beach Boulevard between:
   - Rossmoor Way and Bradbury Road
   - Bradbury Road and Rossmoor Center Way
   - Rossmoor Center Way and Town Center Drive
   - Town Center Drive and St. Cloud Drive
   - St. Cloud Drive and Lampson Avenue
   - Lampson Avenue and I-405 Northbound ramps

2. St. Cloud Drive between:
   - Seal Beach Boulevard and Yellowtail Drive

3. Montecito Road between:
   - Yellowtail Drive and Copa De Oro Drive
   - Copa De Oro Drive and Mainway Drive
   - Mainway Drive and Bradbury Road

4. Rossmoor Center Way between:
   - Montecito Road and Seal Beach Boulevard

Intersections

1. Seal Beach Boulevard/I-405 Southbound ramps
2. Seal Beach Boulevard/I-405 Northbound ramps
3. Seal Beach Boulevard/Lampson Avenue
4. Seal Beach Boulevard/St. Cloud Drive
5. Seal Beach Boulevard/Town Center Drive
6. Seal Beach Boulevard/Rossmoor Center Way
7. Seal Beach Boulevard-Los Alamitos Boulevard/Bradbury Road
8. Yellowtail Drive/St. Cloud Drive (unsignalized)
9. Montecito Road/Copa de Oro Drive (unsignalized)
10. Montecito Road/Mainway Drive-Rossmoor Center Way (unsignalized)
11. Montecito Road/Bradbury Road (unsignalized)
12. West Road/Rossmoor Center Way (unsignalized)
13. Internal Driveway (Eastern)/Rossmoor Center Way (unsignalized)
14. Internal Driveway/Towne Center Drive (unsignalized)
15. Internal Driveway (Western)/Town Center Way (unsignalized)

Exhibit 4.4-1 shows the existing intersection lane geometrics at all 15 intersections.

METHODOLOGY

The traffic study methodology is described in detail in the traffic study in Appendix E. To determine the peak-hour intersection operations at signalized intersections within the study area, intersection capacity utilization (ICU) methodology was used per City of Seal Beach Traffic Study Guidelines. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation. The ICUs were developed for this study using the Traffix (Version 8.0) software.

According to the City of Seal Beach Traffic Impact Study Guidelines, LOS at an intersection is considered to be unsatisfactory when the ICU exceeds 0.90 (LOS D). As such, improvements are recommended at locations that operate at LOS E or F. The relationship of ICU (v/c ratio) to LOS is shown in Table 4.4-1.

Table 4.4-1
Seal Beach Operating Conditions for Levels of Service

LOS	Operating Condition	ICU (v/c ratio)
A	Free flowing, virtually no delay. Minimal traffic.	<0.60
B	Free flow and choice of lanes. Delays are minimal. All cars clear intersection easily.	0.60-0.69
C	State flow. Queue at signal starting to get relatively long. Delays starting to become a factor but still within "acceptable" limits.	0.70-0.79
D	Approaching unstable flow. Queues at intersection are quite long but most cars clear intersection on their green signal. Occasionally, several vehicles must wait for a second green signal. Congestion is moderate.	0.80-0.89
E	Severe congestion and delay. Most of the available capacity is used. Many cars must wait through a complete signal cycle to clear the intersection.	0.90-0.99
F	Excessive delay and congestion. Most cars must wait through more than one on one signal cycle. Queues are very long and drivers are obviously irritated.	>1.00

ICU = Intersection Capacity Utilization
LOS = Level of Service
v/c = volume-to-capacity

Per the City's guidelines, the following project-related increases in intersection ICU (Table 4.4-2, ICU Significance Thresholds) were used to determine if an impact is "significant" and would require mitigation.

Table 4.4-2
ICU Significance Thresholds

Existing ICU	Project-Related Increase in ICU
0.00-0.69	0.06
0.70-0.79	0.04
0.80-0.89	0.02
0.90+	0.01

ICU = Intersection Capacity Utilization

In addition to the ICU methodology of calculating signalized intersection LOS, the Highway Capacity Manual (HCM 2010) methodology was used to determine the LOS at the signalized ramp intersections governed by California Department of Transportation (Caltrans) and at unsignalized study area intersections. The HCM 2010 unsignalized intersection methodology presents LOS in terms of control delay (in seconds per vehicle). The resulting delay is expressed in terms of LOS, as in the ICU methodology. The relationship of delay to LOS is demonstrated in Table 4.4-3 (ICU Methodology Significance Thresholds).

Table 4.4-3
ICU Methodology Significance Thresholds

LOS	Unsignalized Intersection Delay (seconds)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

ICU = Intersection Capacity Utilization
LOS = level of service Source: Highway Capacity Manual 2010

Roadway segments have uniform traffic conditions and roadway characteristics. The measure used to provide an estimate of LOS is density, where density is calculated from the average vehicle flow rate per lane and the average speed. Table 4.4-4 (Level of Service and Flow Density) shows the correlation between LOS and flow density.

Table 4.4-4
Level of Service and Flow Density

LOS	Density (pc/mi/ln)
A	≤11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45

LOS = level of service
pc/mi/ln = passenger cars per mile per lane

For the purposes of this project, LOS D is considered satisfactory on all study area roadway segments.

EXISTING CONDITIONS

Existing weekday morning (7:00 A.M.– 9:00 A.M.), evening (4:00 P.M.– 6:00 P.M.), and weekend mid-day (11:00 A.M.– 1:00 P.M.) peak-hour traffic conditions and LOS were analyzed for existing (2016) conditions. Intersection turn-movement counts were made at the 15 study area intersections, and daily 24-hour counts were conducted for the 11 study area roadway segments in between the study area intersections. The counts were conducted by an independent car count company for a weekday and weekend (Saturday) in November, 2016. The traffic counts are included in Appendix E. The trips generated from surrounding existing land uses, which consist of residential and retail uses east and west of Seal Beach Boulevard, are included in the counts. Count data were collected before the week of the Thanksgiving holiday. LSA collected geometric, traffic control, and posted speed limit data at all study area locations.

A summary of Existing (2016) LOS for intersections and roadway segments are presented in Tables 4.4-5 (Existing 2016 Peak Hour Intersection Level of Service Summary) and Table 4.4-6 (Existing 2016 Peak Hour Roadway Level of Service Summary), respectively. As Tables 4.4-5 and 4.4-6 indicate, all study area intersections and roadway segments currently operate at satisfactory LOS (LOS D or better).

Accident History

The City's Traffic Impact Study Guidelines require the identification and analysis of intersections or roadway segments having five or more reported accidents within the most recent 12-month period. Five accidents are a generalized figure used by City staff as an indication of potential problems that could require improvements. The accident data are included in Appendix E. The City of Seal Beach Police Department provided accident data for the years of 2015 and 2016. It should be noted that the 2016 data represents only 11 months. As such, the traffic study focused on the accidents within the study area identified in 2015.

Table 4.4-7 provides the total number of accidents reported within the study area each year. As this table indicates, five accidents or more occurred in 2015 in the vicinity of the intersections of Seal Beach Boulevard at the I-405 southbound on/off ramps, I-405 northbound on/off ramps, and Lampson Avenue. Table 4.4-8 shows a detailed description of the primary collision factor, type of accident, and number of injuries reported at each of these three locations. The most common factor at the intersections of Seal Beach Boulevard at the I-405 southbound on/off ramps and Seal Beach Boulevard at the I-405 northbound on/off ramps was unsafe speed. As the data report, the number of accidents at these two Caltrans-controlled intersections increased from 2015 through the first 11 months of 2016. The intersection of Seal Beach Boulevard and Lampson Avenue experienced five accidents in 2015 and four accidents within the first 11 months of 2016. Improvements were implemented in this location in 2011. Based on the operational analysis provided in this report, this intersection operates at an acceptable LOS and no additional improvements are recommended at this time.

Pedestrian Survey

To address concerns regarding pedestrian safety expressed via the Notice of Preparation process, the traffic study included a pedestrian and cyclist survey in the surrounding residential area. Specifically, five intersections along Montecito Road and St. Cloud Drive between Bradbury Road and Seal Beach Boulevard were counted as the most utilized pedestrian crossing points due to the presence of crosswalks. This survey revealed the presence of pedestrian activity during the peak hours. The highest number of peak-hour pedestrians observed to cross Montecito Road or Saint Cloud Drive are at the marked crosswalk on the south side of the intersection of Montecito Road and Rossmoor Center Way, with 15 pedestrians in the weekday P.M. peak hour, which does not coincide with release hours from the local schools. These pedestrians may include nearby residents traveling to and from the Shops at Rossmoor for shopping or dining in the afternoon and do not occur during periods of school travel activity. This would suggest that these pedestrians are not students. As this intersection, along with all other study intersections along Montecito Road and Saint Cloud Drive, is a low delay intersection (LOS A or B in all analysis scenarios), pedestrian and traffic conditions along Montecito Road and Saint Cloud drive are anticipated to remain largely the same. The pedestrian and cyclist counts are included in Appendix E of the EIR.

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Table 4.4-5
Existing (2016) Peak Hour Intersection Level of Service Summary

Intersection		AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
		ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS
1	Seal Beach Boulevard/I-405 SB On/Off Ramps[1]	42.8	D	42.7	D	40.1	D
2	Seal Beach Boulevard/I-405 NB On/Off Ramps[1]	43.2	D	49.2	D	34.1	C
3	Seal Beach Boulevard/Lampson Avenue	0.804	D	0.792	C	0.764	C
4	Seal Beach Boulevard/Saint Cloud Drive	0.626	B	0.717	C	0.648	B
5	Seal Beach Boulevard/Town Center Drive	0.501	A	0.732	C	0.815	D
6	Seal Beach Boulevard/Rossmoor Center Way	0.535	A	0.686	B	0.668	B
7	Seal Beach Boulevard/Bradbury Road	0.726	C	0.679	B	0.627	B
8	Yellow Tail Drive/Saint Cloud Drive*	13.4	B	10.8	B	10.8	B
9	Montecito Road/Copa De Oro Drive*	11.3	B	9.5	A	8.8	A
10	Montecito Road/Rossmoor Center Way*	11.9	B	10.2	B	9.6	A
11	Montecito Road/Bradbury Road*	12.8	B	10.1	B	8.9	A
12	West Road/Rossmoor Center Way*	7.7	A	8.0	A	7.8	A
13	Internal Driveway/Rossmoor Center Way*	8.7	A	13.0	B	18.0	C
14	Internal Driveway/Town Center Drive*	7.4	A	11.5	B	15.5	C
15	Project Driveway/Rossmoor Center Way*	8.9	A	9.1	A	9.2	A

ICU V/C ratio is used for signalized intersections in the City of Seal Beach.

* Indicates unsignalized intersection. HCM delay in seconds is used for unsignalized intersections.

(Shade) = Exceeds City level of service criteria (LOS D)

1 HCM Methodology-consistent with Caltrans requirements

Table 4.4-6
Existing (2016) Peak Hour Roadway Level of Service Summary

Roadway	Segment	Direction	AM			PM			Saturday Mid-day		
			Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS
Seal Beach Boulevard	I-405 Northbound On/Off Ramps and Lampson Avenue	Northbound	45.0	16.6	B	45.0	18.0	B	45.0	15.4	B
		Southbound	45.0	18.0	B	45.0	16.4	B	45.0	14.0	B
	Lampson Avenue and Saint Cloud Drive	Northbound	45.0	19.5	C	45.0	18.3	C	45.0	17.7	B
		Southbound	45.0	16.7	B	45.0	17.0	B	45.0	14.9	B
	Saint Cloud Drive and Town Center Drive	Northbound	45.0	14.6	B	45.0	14.6	B	45.0	14.0	B
		Southbound	45.0	11.1	B	45.0	12.9	B	45.0	11.3	B
	Town Center Drive and Rossmoor Center Way	Northbound	45.0	13.5	B	45.0	13.1	B	45.0	12.4	B
		Southbound	45.0	11.2	B	45.0	12.3	B	45.0	11.2	B
	Rossmoor Center Way and Bradbury Road	Northbound	45.0	13.1	B	45.0	13.1	B	45.0	12.6	B
		Southbound	45.0	11.6	B	45.0	14.0	B	45.0	12.8	B
	Bradbury Road and Rossmoor Way	Northbound	45.0	14.7	B	45.0	13.8	B	45.0	12.4	B
		Southbound	45.0	12.4	B	45.0	14.9	B	45.0	12.8	B
Saint Cloud Drive*	Seal Beach Boulevard and Yellowtail Drive	-	22.8	-	D	26.5	-	C	26.7	-	C
Montecito Road*	Yellowtail Drive and Copa De Oro Drive	-	26.0	-	C	28.8	-	B	29.3	-	B
	Copa De Oro Drive and Mainway Drive	-	30.1	-	B	30.2	-	B	31.1	-	A
	Mainway Drive and Bradbury Road	-	29.1	-	B	30.3	-	B	31.2	-	A
Rossmoor Center Way**	Montecito Road and Seal Beach Boulevard	-	27.6	-	A	25.7	-	A	25.2	-	B

*Analyzed as Two Lane Roadways with a speed limit of 35 MPH
**Analyzed as Two Lane Roadway with a speed limit of 30 MPH

Table 4.4-7
North Seal Beach Accident History Summary

Location	Year	
	2016 [1]	2015
Seal Beach Boulevard/I-405 SB On/Off Ramps	7	5
Seal Beach Boulevard/I-405 NB On/Off Ramps	10	7
Seal Beach Boulevard/Lampson Avenue	2	5
Seal Beach Boulevard/St. Cloud Drive	3	2
Seal Beach Boulevard/Town Center Drive	4	3
Seal Beach Boulevard/Rossmoor Center Way-Plymouth Drive	1	2
Seal Beach Boulevard/Bradbury Road	4	3
Yellowtail Drive/St. Cloud Drive	1	0
Internal Driveway/Rossmoor Center Way	1	0
Internal Driveway/Town Center Way	1	1

Data is presented in total number of accidents per location

[1] 2016 Data represents January - November only

= Location analyzed in the traffic study

Table 4.4-8
North Seal Beach High Accident Location Details (2015)

Location	Primary Collision Factor	Type	Injury	Fatality
Seal Beach Boulevard/I-405 SB On/Off Ramps (5 total accidents)	Unsafe Speed	Rear End	0	0
	Unsafe Speed	Rear End	0	0
	Unsafe Speed	Rear End	0	0
	Unsafe Speed	Not Specified	1	0
	Lane Change	Sideswipe	0	0
		Total	1	0
Seal Beach Boulevard/I-405 NB On/Off Ramps (7 total accidents)	Unsafe Speed	Not Specified	1	0
	Unsafe Speed	Rear End	0	0
	Unsafe Speed	Rear End	0	0
	Improper Turn	Broadside	0	0
	Unsafe Speed	Broadside	0	0
	Unsafe Speed	Rear End	0	0
	Signage	Broadside	0	0
		Total	1	0
Seal Beach Boulevard/Lampson Avenue (5 total accidents)	Improper Turn	Broadside	0	0
	Unsafe Speed	Rear End	2	0
	Unsafe Speed	Not Specified	0	0
	Signage	Broadside	0	0
	Grand Theft Auto	Not Specified	2	0
		Total	4	0

Environmental Impacts

THRESHOLDS OF SIGNIFICANCE

The proposed project could result in a significant traffic or transportation impact if it:

A. Causes an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., results in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).
B. Exceeds, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
C. Results in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks.
D. Substantially increases hazards due to design features or incompatible uses.
E. Results in inadequate emergency access.

Impact 4.0. A	**The proposed project would not cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system**

Impact 4.0. B	**The proposed project would not exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.**

As part of the proposed project, the following two access improvements are proposed: 1) lengthen the northbound left-turn pocket at the intersection of Seal Beach Boulevard and Rossmoor Center Way to 205 feet, and 2) widen Rossmoor Center Way between the internal driveway and Seal Beach Boulevard in order to add an additional westbound lane to the first intersection. These project off-site improvements have been assumed in the traffic study and would be fully funded by the project applicant. With regard to #2 above, the traffic study in Appendix E shows that neither the widening of Rossmoor Center Way nor the additional driveway is required to address a significant traffic impact, reduce traffic impacts, or address traffic safety impacts.

TRIP GENERATION AND PROJECTED FUTURE CONDITIONS

As indicated in Table 4.4-9 (Health Club Trip Generation), the proposed project is estimated to generate 1,218 daily trips, 52 weekday A.M. peak hour trips, 131 weekday P.M. peak hour trips, and 103 Saturday mid-day peak hour trips.

Table 4.4-9
Health Club Trip Generation

Size	Unit	ADT	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Trip Rate											
	TSF	32.93	0.71	0.71	1.41	2.01	1.52	3.53	1.25	1.53	2.78
Trip Generation											
37,000	TSF	1,218	26	26	52	74	56	131	46	57	103

ADT = average daily traffic
TSF = thousand square feet
Trip rates from the Institute of Transportation Engineers (ITE), Trip Generation, Ninth Edition (2012)

UNOCCUPIED SPACE WITHIN THE SHOPS AT ROSSMOOR

To evaluate the adjacent Shops at Rossmoor retail center at full occupancy, traffic from the unoccupied space (former Marie Callender's) in the northern part of the retail center has been assumed. The unoccupied restaurant consists of 8,827 square feet just west of Seal Beach Boulevard. Trip generation for the unoccupied space was calculated based on rates contained in the Institute of Transportation Engineers' (ITE) *Trip Generation* (Ninth Edition, 2012), which is a standard reference used by jurisdictions throughout the country for estimating the trip generation potential of new development.

The former restaurant has been conservatively classified as a high-turnover restaurant use (ITE Land Use 932) to reflect the most current use. As indicated in Table 4.4-10 (Unoccupied Space within the Shops at Rossmoor Trip Generation), the unoccupied restaurant, if it were in operation, would generate 1,122 daily trips, 96 weekday A.M. peak hour trips, 87 weekday P.M. peak hour trips, and 124 Saturday mid-day peak hour trips.

Table 4.4-10
Unoccupied Space within the Shops at Rossmoor Trip Generation

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Trip Rate[1]												
High-Turnover Restaurant		TSF	127.15	5.95	4.86	10.81	5.91	3.94	9.85	7.46	6.61	14.07
Trip Generation												
High-Turnover Restaurant	8,827	TSF	1,122	53	43	96	52	35	87	66	58	124

[1] Trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation*, Ninth Edition (2012).
ADT = average daily traffic TSF = thousand square feet

The unoccupied restaurant trips were distributed throughout the study area using the same information from (Orange County Transportation Analysis Model [OCTAM]) that was utilized for the proposed project. Trips generated by the unoccupied parcel were added to the base traffic volumes to develop "with Full Occupancy" traffic volumes.

EXISTING (2016) WITH FULL OCCUPANCY CONDITIONS

To represent the full potential of traffic that could traverse Seal Beach Boulevard and the study area in the existing condition, existing weekday morning, evening, and weekend mid-day peak-hour traffic conditions were modified based on the additional traffic from the unoccupied restaurant for the Existing (2016) with Full Occupancy scenario.

The trip assignment of the unoccupied restaurant was added to the Existing (2016) counts to develop the volumes for the Existing (2016) with Full Occupancy conditions. A summary of Existing (2016) with Full Occupancy conditions LOS at study area roadway segments is presented in Table 4.4-11 (Existing 2016 with Full Occupancy Peak Hour Roadway Level of Service Summary). Table 4.4-12 includes Existing (2016) with Full Occupancy Peak Hour Intersection Level of Service Summary). As the tables indicates, all study area roadway segments and intersections are anticipated to operate at satisfactory LOS (LOS D or better).

Table 4.4-11
Existing (2016) with Full Occupancy Peak Hour Intersection Level of Service Summary

Intersection		Existing (2016) + Full Occupancy						Existing (2016) + Full Occupancy + Project								
		AM		PM		Sat		AM			PM			Sat		
		ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	Δ ICU	ICU / Delay	LOS	Δ ICU	ICU / Delay	LOS	Δ ICU
1	Seal Beach Boulevard/I-405 SB On/Off Ramps[1]	42.1	D	42.6	D	40.4	D	41.7	D	-	42.4	D	-	40.7	D	-
2	Seal Beach Boulevard/I-405 NB On/Off Ramps[1]	44.0	D	50.0	D	34.9	C	44.5	D	-	51.2	D	-	35.7	D	-
3	Seal Beach Boulevard/Lampson Avenue	0.812	D	0.797	C	0.774	C	0.816	D	0.004	0.804	D	0.007	0.781	C	0.007
4	Seal Beach Boulevard/Saint Cloud Drive	0.631	B	0.720	C	0.654	C	0.634	B	0.003	0.727	C	0.007	0.660	B	0.006
5	Seal Beach Boulevard/Town Center Drive	0.501	A	0.752	C	0.841	C	0.503	A	0.002	0.757	C	0.005	0.846	D	0.005
6	Seal Beach Boulevard/Rossmoor Center Way	0.539	A	0.691	B	0.673	B	0.548	A	0.009	0.733	C	0.042	0.705	C	0.032
7	Seal Beach Boulevard/Bradbury Road	0.731	C	0.684	B	0.632	B	0.733	C	0.002	0.690	B	0.006	0.636	B	0.004
8	Yellow Tail Drive/Saint Cloud Drive*	13.9	B	10.9	B	10.8	B	13.9	B	-	10.9	B	-	11.0	B	-
9	Montecito Road/Copa De Oro Drive*	11.4	B	9.6	A	8.8	A	11.4	B	-	9.6	A	-	8.8	A	-
10	Montecito Road/Rossmoor Center Way*	11.9	B	10.2	B	9.7	A	12.0	B	-	10.3	B	-	9.8	A	-
11	Montecito Road/Bradbury Road*	12.8	B	10.1	B	8.9	A	12.8	B	-	10.1	B	-	8.9	A	-
12	West Road/Rossmoor Center Way*	7.7	A	8.0	A	7.8	A	7.7	A	-	8.1	A	-	7.8	A	-
13	Internal Driveway/Rossmoor Center Way*	8.7	A	13.0	B	18.0	C	8.9	A	-	15.8	C	-	22.9	C	-
14	Internal Driveway/Town Center Drive*	7.8	A	11.6	B	16.0	C	7.8	A	-	11.6	B	-	16.0	C	-
15	Project Driveway/Rossmoor Center Way*	8.9	A	9.1	A	9.2	A	9.1	A	-	9.3	A	-	9.5	A	-

ICU V/C ratio is used for signalized intersections in the City of Seal Beach.

* Indicates unsignalized intersection. HCM delay in seconds is used for unsignalized intersections.

(Shade) = Exceeds City level of service criteria (LOS D)

[1] HCM Methodology-consistent with Caltrans requirements

Table 4.4-12
Existing (2016) With Full Occupancy Peak Hour Roadway Level of Service Summary

Roadway	Segment	Direction	Existing (2016) + Full Occupancy									Existing (2016) + Full Occupancy + Project								
			AM			PM			Saturday Mid-day			AM			PM			Saturday Mid-day		
			Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS
Seal Beach Boulevard	I-405 Northbound On/Off Ramps and Lampson Avenue	NB	45.0	16.8	B	45.0	18.1	C	45.0	15.6	B	45.0	16.9	B	45.0	18.3	C	45.0	15.8	B
		SB	45.0	18.1	C	45.0	16.5	B	45.0	14.1	B	45.0	18.2	C	45.0	16.7	B	45.0	14.3	B
	Lampson Avenue and Saint Cloud Drive	NB	45.0	19.7	C	45.0	18.5	C	45.0	18.0	B*	45.0	19.9	C	45.0	18.8	C	45.0	18.2	C
		SB	45.0	16.9	B	45.0	17.1	B	45.0	15.1	B	45.0	17.0	B	45.0	17.3	B	45.0	15.3	B
	Saint Cloud Drive and Town Center Drive	NB	45.0	14.8	B	45.0	14.8	B	45.0	14.3	B	45.0	14.9	B	45.0	15.0	B	45.0	14.5	B
		SB	45.0	11.2	B	45.0	13.0	B	45.0	11.5	B	45.0	11.3	B	45.0	13.2	B	45.0	11.6	B
	Town Center Drive and Rossmoor Center Way	NB	45.0	13.6	B	45.0	13.2	B	45.0	12.6	B	45.0	13.7	B	45.0	13.5	B	45.0	12.8	B
		SB	45.0	11.4	B	45.0	12.5	B	45.0	11.4	B	45.0	11.5	B	45.0	12.7	B	45.0	11.6	B
	Rossmoor Center Way and Bradbury Road	NB	45.0	13.3	B	45.0	13.2	B	45.0	12.8	B	45.0	13.4	B	45.0	13.4	B	45.0	13.0	B
		SB	45.0	11.8	B	45.0	14.2	B	45.0	13.0	B	45.0	11.9	B	45.0	14.4	B	45.0	13.2	B
	Bradbury Road and Rossmoor Way	NB	45.0	14.9	B	45.0	13.9	B	45.0	12.6	B	45.0	15.0	B	45.0	14.1	B	45.0	12.8	B
		SB	45.0	12.6	B	45.0	15.1	B	45.0	13.0	B	45.0	12.7	B	45.0	15.4	B	45.0	13.2	B
Saint Cloud Drive*	Seal Beach Boulevard and Yellowtail Drive	N/A	22.8	-	D	26.5	-	C	26.7	-	C	22.8	-	D	26.5	-	C	26.7	-	C
Montecito Road*	Yellowtail Drive and Copa De Oro Drive	N/A	26.0	-	C	28.8	-	B	29.2	-	B	25.9	-	C	28.7	-	B	29.2	-	B
	Copa De Oro Drive and Mainway Drive		30.0	-	B	30.1	-	B	31.1	-	A	30.0	-	B	30.1	-	B	31.0	-	A
	Mainway Drive and Bradbury Road		29.1	-	B	30.3	-	B	31.2	-	A	29.1	-	B	30.2	-	B	31.2	-	A
Rossmoor Center Way**	Montecito Road and Seal Beach Boulevard	N/A	27.6	-	A	25.7	-	A	25.2	-	B	27.4	-	A	25.1	-	B	24.7	-	B

NB = Northbound, SB = Southbound

*Analyzed as Two Lane Roadways with a speed limit of 35 MPH

**Analyzed as Two Lane Roadway with a speed limit of 30 MPH

EXISTING (2016) WITH FULL OCCUPANCY PLUS HEALTH CLUB CONDITIONS

To identify potential project impacts, project traffic was added to the Existing (2016) with Full Occupancy traffic conditions. A summary of Existing (2016) with Full Occupancy plus Project conditions weekday A.M., P.M., and weekday mid-day peak-hour traffic volumes are included in Tables 4.4-13 and 4.4-14. Table 4.4-13 includes a peak-hour intersection LOS summary for Existing (2016) plus Full Occupancy plus the Health Club, and Table 4.4-14 reports conditions for peak-hour roadway segments. As the tables indicate, all study area intersections and roadway segments are anticipated to continue to operate at satisfactory LOS (LOS D or better) with the addition of project traffic. Traffic impacts on intersections and roadway segments would be less than significant.

According to the project applicant, the proposed project is expected to be completed in late 2018. To present a near-term 2018 traffic condition, an ambient growth rate of 0.5 percent per year was added to existing traffic volumes, along with traffic from the unoccupied parcel within The Shops at Rossmoor. This growth rate is consistent with standard City practices for traffic studies.

In addition to the inclusion of an ambient growth rate, anticipated traffic from nearby planned developments that may utilize the study area roadway facilities by the time the project is planned to be built and operational was considered in the traffic analysis. No development projects were identified in Seal Beach. The neighboring City of Los Alamitos was contacted for information on anticipated developments that may contribute traffic to study area facilities. Based on information provided by City of Los Alamitos staff, traffic from the following cumulative projects were included in this analysis:

- Village 605 – 3131 Katella Avenue: Replacement of existing office use with the construction of a 113,800-square-foot neighborhood retail center within seven buildings
- Fairfield Inn & Suites – 10650 Los Alamitos Boulevard: Construction of a 108-room hotel

As shown in Tables 4.4.13 and 4.4.-14, all study area intersections and roadway segments are anticipated to operate at satisfactory LOS (LOS D or better) under Project Completion Year (2018) with Full Occupancy conditions, without and with the proposed health club. For future near-term conditions with cumulative traffic, impacts would be less than significant.

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Table 4.4-13: Project Completion Year (2018) Peak Hour Intersection Level of Service Summary

Intersection		Project Completion Year (2018)						Project Completion Year (2018) + Project								
		AM		PM		Sat		AM			PM			Sat		
		ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	Δ ICU	ICU / Delay	LOS	Δ ICU	ICU / Delay	LOS	Δ ICU
1	Seal Beach Boulevard/I-405 SB On/Off Ramps[1]	41.7	D	42.9	D	41.1	D	41.4	D	-	42.7	D	-	41.5	D	-
2	Seal Beach Boulevard/I-405 NB On/Off Ramps[1]	45.3	D	51.3	D	35.7	D	45.8	D	-	52.5	D	-	36.5	D	-
3	Seal Beach Boulevard/Lampson Avenue	0.822	D	0.807	D	0.794	D	0.826	D	0.004	0.814	D	0.007	0.802	D	0.008
4	Seal Beach Boulevard/Saint Cloud Drive	0.650	B	0.734	C	0.668	C	0.653	B	0.003	0.740	C	0.006	0.673	B	0.005
5	Seal Beach Boulevard/Town Center Drive	0.507	A	0.761	C	0.851	C	0.509	A	0.002	0.766	C	0.005	0.856	D	0.005
6	Seal Beach Boulevard/Rossmoor Center Way	0.549	A	0.699	B	0.681	B	0.566	A	0.017	0.741	C	0.042	0.713	C	0.032
7	Seal Beach Boulevard/Bradbury Road	0.759	C	0.698	B	0.647	B	0.761	C	0.002	0.705	C	0.007	0.651	B	0.004
8	Yellow Tail Drive/Saint Cloud Drive*	14.0	B	10.8	B	11.0	B	14.7	B	-	10.8	B	-	11.0	B	-
9	Montecito Road/Copa De Oro Drive*	11.5	B	9.6	A	8.8	A	11.6	B	-	9.6	A	-	8.8	A	-
10	Montecito Road/Rossmoor Center Way*	12.0	B	10.3	B	9.7	A	12.1	B	-	10.4	B	-	9.8	A	-
11	Montecito Road/Bradbury Road*	12.9	B	10.1	B	8.9	A	12.9	B	-	10.2	B	-	9.0	A	-
12	West Road/Rossmoor Center Way*	7.7	A	8.0	A	7.8	A	7.7	A	-	8.1	A	-	7.8	A	-
13	Internal Driveway/Rossmoor Center Way*	8.7	A	13.2	B	18.5	C	8.9	A	-	16.1	C	-	23.7	C	-
14	Internal Driveway/Town Center Drive*	7.8	A	11.8	B	16.3	C	7.8	A	-	11.8	B	-	16.3	C	-
15	Project Driveway/Rossmoor Center Way*	8.9	A	9.2	A	9.2	A	9.1	A	-	9.3	A	-	9.5	A	-

ICU V/C ratio is used for signalized intersections in the City of Seal Beach.

* Indicates unsignalized intersection. HCM delay in seconds is used for unsignalized intersections.

(Shade) = Exceeds City level of service criteria (LOS D)

1 HCM Methodology-consistent with Caltrans requirements

Table 4.4-14: Project Completion Year (2018) With Full Occupancy Peak Hour Roadway Level of Service Summary

Roadway	Segment	Direction	Project Completion Year (2018)									Project Completion Year (2018) + Project								
			AM			PM			Saturday Mid-day			AM			PM			Saturday Mid-day		
			Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS
Seal Beach Boulevard	I-405 Northbound On/Off Ramps and Lampson Avenue	NB	45.0	17.1	B	45.0	18.4	C	45.0	15.9	B	45.0	17.2	B	45.0	18.6	C	45.0	16.1	B
		SB	45.0	18.4	C	45.0	16.7	B	45.0	14.3	B	45.0	18.5	C	45.0	16.9	B	45.0	14.5	B
	Lampson Avenue and Saint Cloud Drive	NB	45.0	20.0	C	45.0	19.0	C	45.0	18.4	C	45.0	20.2	C	45.0	19.3	C	45.0	18.6	C
		SB	45.0	17.5	B	45.0	17.3	B	45.0	15.3	B	45.0	17.6	B	45.0	17.6	B	45.0	15.5	B
	Saint Cloud Drive and Town Center Drive	NB	45.0	15.1	B	45.0	15.2	B	45.0	14.7	B	45.0	15.2	B	45.0	15.4	B	45.0	14.9	B
		SB	45.0	11.8	B	45.0	13.2	B	45.0	11.7	B	45.0	11.9	B	45.0	13.4	B	45.0	11.9	B
	Town Center Drive and Rossmoor Center Way	NB	45.0	13.8	B	45.0	13.7	B	45.0	13.0	B	45.0	13.9	B	45.0	14.0	B	45.0	13.2	B
		SB	45.0	12.0	B	45.0	12.7	B	45.0	11.6	B	45.0	12.1	B	45.0	12.9	B	45.0	11.8	B
	Rossmoor Center Way and Bradbury Road	NB	45.0	13.5	B	45.0	13.6	B	45.0	13.2	B	45.0	13.6	B	45.0	13.8	B	45.0	13.4	B
		SB	45.0	12.4	B	45.0	14.4	B	45.0	13.2	B	45.0	12.5	B	45.0	14.6	B	45.0	13.4	B
	Bradbury Road and Rossmoor Way	NB	45.0	15.2	B	45.0	14.5	B	45.0	13.2	B	45.0	15.3	B	45.0	14.7	B	45.0	13.4	B
		SB	45.0	13.4	B	45.0	15.4	B	45.0	13.3	B	45.0	13.5	B	45.0	15.7	B	45.0	13.4	B
Saint Cloud Drive*	Seal Beach Boulevard and Yellowtail Drive	N/A	22.8	-	D	26.4	-	C	26.6	-	C	22.8	-	D	26.4	-	C	26.5	-	C
Montecito Road*	Yellowtail Drive and Copa De Oro Drive	N/A	25.9	-	C	28.7	-	B	29.2	-	B	25.9	-	C	28.6	-	B	29.1	-	B
	Copa De Oro Drive and Mainway Drive	N/A	30.0	-	B	30.1	-	B	31.0	-	A	30.0	-	B	30.0	-	B	31.0	-	A
	Mainway Drive and Bradbury Road	N/A	29.0	-	B	30.2	-	B	31.2	-	A	29.0	-	B	30.2	-	B	31.1	-	A
Rossmoor Center Way**	Montecito Road and Seal Beach Boulevard	N/A	27.6	-	A	25.6	-	A	25.2	-	B	27.3	-	A	25.1	-	B	24.7	-	B

NB = Northbound, SB = Southbound

*Analyzed as Two Lane Roadways with a speed limit of 35 MPH

**Analyzed as Two Lane Roadway with a speed limit of 30 MPH

FUTURE (2035) GENERAL PLAN BUILDOUT CONDITIONS

Traffic conditions for the future long-range condition, corresponding to the buildout of the City's General Plan, were analyzed. The traffic volumes for Future (2035) General Plan Buildout traffic conditions were developed based on an annual growth rate applied to the Existing (2016) weekday A.M., P.M., and weekend peak-hour traffic volumes at study intersections and roadway segments to represent a 19-year horizon. Based on discussions with City staff, a growth rate of 0.5 percent per year was applied over the time frame between Existing and Future (2035) General Plan Buildout traffic conditions to provide a conservative traffic analysis.

To account for the fully occupied retail center, the trip assignment generated earlier for the unoccupied restaurant was manually added to the Future (2035) General Plan Buildout traffic volumes to develop the volumes for the Future (2035) General Plan Buildout with Full Occupancy condition. The LOS at the study area intersections and roadway segments were identified based on this data.

A summary of Future (2035) General Plan Buildout with Full Occupancy LOS for study area intersections and roadway segments is presented in Tables 4.4-15 (Future 2035 General Plan Buildout with Full Occupancy Peak Hour Intersection Level of Service Summary) and 4.4-16 (Future 2035 General Plan Buildout with Full Occupancy Peak Hour Roadway Level of Service Summary), respectively. The LOS for study area intersections and roadway segments associated with the inclusion of the proposed project are presented in Tables 4.4-15 (Future 2035 General Plan Buildout with Full Occupancy Plus Health Club Peak Hour Intersection Level of Service Summary) and 4.4-16 (Future 2035 General Plan Buildout with Full Occupancy Plus Health Club Peak Hour Roadway Level of Service Summary), respectively.

As shown on the tables, all study area intersections and roadway segments are anticipated to operate at satisfactory LOS (LOS D or better) under Future (2035) General Plan Buildout with Full Occupancy, without and with health club conditions. Impacts related to level of service for project intersections and roadways would be less than significant**.**

As Table 4.4-15 shows, the addition of project traffic at the intersection of Seal Beach Boulevard and Rossmoor Center Way results in an ICU increase that meets the City's threshold of significance of 0.040 during the weekday P.M. peak hour. It should be noted this intersection is anticipated to operate at an acceptable LOS C or better under all peak hours in the Future (2035) General Plan Buildout with Full Occupancy with Project conditions. As all study area intersections and roadway facilities are anticipated to operate at satisfactory LOS from Existing (2016) to Future (2035) General Plan Buildout with Full Occupancy plus Project traffic conditions, operational improvements aimed at alleviating LOS deficiencies are not warranted and have not been recommended. Existing queuing issues that occur in the northbound left-turn lane at the intersection of Seal Beach Boulevard and Rossmoor Center Way are anticipated to be alleviated by the proposed improvement to the northbound left-turn lane as part of the proposed project. Although this northbound left-turn queuing is an existing concern, the project would improve the stacking distance to eliminate existing queuing deficiencies and avoid what could have been an increase in those deficiencies without this element of the project.

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Table 4.4-15: Future Buildout Year (2035) Peak Hour Intersection Level of Service Summary

	Intersection	Future Buildout Year (2035)						Future Buildout Year (2035) + Project								
		AM		PM		Sat		AM			PM			Sat		
		ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	Δ ICU	ICU / Delay	LOS	Δ ICU	ICU / Delay	LOS	Δ ICU
1	Seal Beach Boulevard/I-405 SB On/Off Ramps[1]	42.1	D	47.0	D	46.6	D	41.7	D	-	47.1	D	-	47.2	D	-
2	Seal Beach Boulevard/I-405 NB On/Off Ramps[1]	43.2	D	44.9	D	36.6	D	43.7	D	-	46.9	D	-	37.4	D	-
3	Seal Beach Boulevard/Lampson Avenue	0.809	D	0.848	D	0.799	D	0.813	D	0.004	0.855	D	0.007	0.806	D	0.007
4	Seal Beach Boulevard/Saint Cloud Drive	0.623	B	0.738	C	0.669	C	0.625	B	0.002	0.744	C	0.006	0.675	B	0.006
5	Seal Beach Boulevard/Town Center Drive	0.498	A	0.776	C	0.870	C	0.501	A	0.003	0.781	C	0.005	0.875	D	0.005
6	Seal Beach Boulevard/Rossmoor Center Way	0.544	A	0.713	C	0.713	C	0.559	A	0.015	0.753	C	0.040	0.744	C	0.031
7	Seal Beach Boulevard/Bradbury Road	0.766	C	0.730	C	0.680	C	0.769	C	0.003	0.736	C	0.006	0.684	B	0.004
8	Yellow Tail Drive/Saint Cloud Drive*	12.5	B	10.7	B	10.8	B	12.9	B	-	10.7	B	-	10.9	B	-
9	Montecito Road/Copa De Oro Drive*	10.4	B	9.3	A	8.8	A	10.4	B	-	9.3	A	-	8.8	A	-
10	Montecito Road/Rossmoor Center Way*	11.0	B	9.8	A	9.6	A	11.1	B	-	9.9	A	-	9.7	A	-
11	Montecito Road/Bradbury Road*	11.3	B	9.9	A	9.1	A	11.3	B	-	9.9	A	-	9.1	A	-
12	West Road/Rossmoor Center Way*	7.6	A	8.0	A	7.8	A	7.6	A	-	8.0	A	-	7.8	A	-
13	Internal Driveway/Rossmoor Center Way*	8.7	A	13.9	B	19.5	C	9.0	A	-	17.3	C	-	25.0	C	-
14	Internal Driveway/Town Center Drive*	7.7	A	11.4	B	17.9	C	7.7	A	-	11.4	B	-	17.9	C	-
15	Project Driveway/Rossmoor Center Way*	8.9	A	9.1	A	9.3	A	9.0	A	-	9.3	A	-	9.4	A	-

ICU V/C ratio is used for signalized intersections in the City of Seal Beach.

* Indicates unsignalized intersection. HCM delay in seconds is used for unsignalized intersections.

(Shade) = Exceeds City level of service criteria (LOS D)

1 HCM Methodology-consistent with Caltrans requirements

Table 4.4-16: Future (2035) Buildout with Full Occupancy Peak Hour Roadway Level of Service Summary

Roadway	Segment	Direction	Future Buildout Year (2035)									Future Buildout Year (2035) + Project								
			AM			PM			Saturday Mid-day			AM			PM			Saturday Mid-day		
			Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS	Speed (mph)	Density	LOS
Seal Beach Boulevard	I-405 Northbound On/Off Ramps and Lampson Avenue	NB	45.0	14.4	B	45.0	18.5	C	45.0	15.7	B	45.0	14.5	B	45.0	18.7	C	45.0	15.8	B
		SB	45.0	19.3	C	45.0	17.4	B	45.0	14.8	B	45.0	19.4	C	45.0	17.6	B	45.0	14.9	B
	Lampson Avenue and Saint Cloud Drive	NB	45.0	16.9	B	45.0	17.9	B	45.0	17.4	B	45.0	17.0	B	45.0	18.1	C	45.0	17.5	B
		SB	45.0	16.3	B	45.0	18.2	C	45.0	15.9	B	45.0	16.4	B	45.0	18.4	C	45.0	16.1	B
	Saint Cloud Drive and Town Center Drive	NB	45.0	14.2	B	45.0	14.1	B	45.0	13.7	B	45.0	14.3	B	45.0	14.4	B	45.0	13.8	B
		SB	45.0	11.6	B	45.0	14.0	B	45.0	12.0	B	45.0	11.7	B	45.0	14.2	B	45.0	12.2	B
	Town Center Drive and Rossmoor Center Way	NB	45.0	13.6	B	45.0	13.6	B	45.0	12.7	B	45.0	13.7	B	45.0	13.9	B	45.0	12.8	B
		SB	45.0	12.1	B	45.0	13.3	B	45.0	11.7	B	45.0	12.2	B	45.0	13.5	B	45.0	11.9	B
	Rossmoor Center Way and Bradbury Road	NB	45.0	13.9	B	45.0	14.2	B	45.0	13.0	B	45.0	14.0	B	45.0	14.4	B	45.0	13.2	B
		SB	45.0	12.4	B	45.0	14.8	B	45.0	13.5	B	45.0	12.5	B	45.0	15.0	B	45.0	13.6	B
	Bradbury Road and Rossmoor Way	NB	45.0	15.7	B	45.0	14.2	B	45.0	13.3	B	45.0	15.7	B	45.0	14.4	B	45.0	13.5	B
		SB	45.0	13.0	B	45.0	16.0	B	45.0	13.4	B	45.0	13.1	B	45.0	16.3	B	45.0	13.5	B
Saint Cloud Drive*	Seal Beach Boulevard and Yellowtail Drive	N/A	25.5	-	C	26.5	-	C	26.7	-	C	25.5	-	C	26.5	-	C	26.7	-	C
Montecito Road*	Yellowtail Drive and Copa De Oro Drive	N/A	27.8	-	C	29.1	-	B	29.1	-	B	27.8	-	C	29.0	-	B	29.1	-	B
	Copa De Oro Drive and Mainway Drive	N/A	30.3	-	B	30.7	-	A	31.0	-	A	30.4	-	B	30.7	-	A	31.0	-	A
	Mainway Drive and Bradbury Road	N/A	29.8	-	B	30.7	-	A	31.4	-	A	29.7	-	B	30.7	-	A	31.4	-	A
Rossmoor Center Way**	Montecito Road and Seal Beach Boulevard	N/A	27.8	-	A	26.1	-	A	25.7	-	A	27.6	-	A	25.5	-	A	25.3	-	B

NB = Northbound, SB = Southbound

*Analyzed as Two Lane Roadways with a speed limit of 35 MPH

**Analyzed as Two Lane Roadway with a speed limit of 30 MPH

Impact 4.0. C The proposed project would not conflict result in a change in air traffic patterns, including an increase in traffic levels or a change in location that results in substantial safety risks.

The proposed project site is not within an area that is subject to an airport land use plan and thus would not change air traffic patterns.

Impact 4.0. D The proposed project would not substantially increase hazards due to design features or incompatible uses.

This section presents the results of the site access assessment at the shopping center with full occupancy, both without and with the proposed health club. This assessment was performed to examine traffic volumes and any potential motor vehicle, bicycle, and pedestrian conflicts that might be created with the proposed project and associated access improvements.

SITE ADJACENT DRIVEWAYS AND CIRCULATION (AT ROSSMOOR PARK)

Based on the intersection and roadway analysis and observations made by the project traffic consultant, the section of Rossmoor Center Way adjacent to the project site between Montecito Road and the internal driveways into Pei Wei and Sprouts operates at acceptable levels of service. The amount of traffic on this segment of Rossmoor Center Way is lower than the segment of Rossmoor Center Way just west of Seal Beach Boulevard. Specifically, 2,620 vehicles were counted in a 24-hour period on Tuesday, October 18, 2016 on Rossmoor Center Way between Montecito Road and the Sprouts and Pei Wei driveways, while 8,267 vehicles were counted in the same period on Rossmoor Center Way between the Sprouts and Pei Wei driveways and Seal Beach Boulevard. In an effort to provide perspective on what these volumes mean for traffic, the City considers 12,500 vehicles per day to be the capacity for a two-lane undivided roadway, like the segment of Rossmoor Center Way between Montecito Road and the Sprouts and Pei Wei driveways.

Additionally, weekday A.M., P.M., and weekend mid-day peak hour counts at the unsignalized Rossmoor Park outbound-only driveway to the north of the site revealed a maximum of 46 peak-hour vehicles leaving the residences during any peak hour. This translates to approximately one vehicle leaving the Rossmoor Park residential development every 78 seconds during the weekday P.M. peak hour. Combined with the daily volumes counted on Rossmoor Center Way directly in front of this driveway, which are within the 12,500 vehicles per day capacity, the operations at this location and along this segment are considered acceptable and would not result in unacceptable interruptions in vehicular movements because of traffic.

It needs to be clarified that this does not apply to the segment of Rossmoor Center Way between the Sprouts and Pei Wei driveways and Seal Beach Boulevard, which experiences more than three times the daily traffic of the segment discussed above. Further analysis of the segment of Rossmoor Center Way between the Sprouts and Pei Wei driveways and Seal Beach Boulevard and the overall traffic operations at the intersection of Seal Beach Boulevard and Rossmoor Center Way are the focus of the following analysis.

ROSSMOOR CENTER WAY AND SHOPS AT ROSSMOOR ACCESS AND CIRCULATION

As part of the site access assessment, existing and potential turn-pocket queuing issues at site access points and site-adjacent intersections were analyzed using the SimTraffic (Version 9.1) software. SimTraffic is analysis software that provides a microscopic model that more accurately simulates real world conditions as compared to macroscopic analysis tools such as Traffix. SimTraffic tracks and collects measures of effectiveness for each vehicle in a traffic system during a simulation. Due to variability that arises from simulations of this nature, multiple simulation runs for each analysis scenario have been averaged to draw representative queuing results. This method more accurately measures the full impact of queuing and blocking of traffic.

Table 4.4-17 (Site Access Queuing Summary) shows queuing results for Existing (2016) with Full Occupancy without and with project traffic and indicates that existing peak-hour queues at site access points and site-adjacent intersections are

anticipated to be sufficiently stored by existing facilities, with the exception of the northbound left-turn pocket at the intersection of Seal Beach Boulevard and Rossmoor Center Way. The existing weekday P.M. and weekend midday 95th percentile peak-hour queues extend past the storage provided by the existing northbound left-turn pocket. The northbound left-turn pocket currently provides 105 feet of storage with a 100-foot transition. However, as Table 4.4-17 shows, a potential queue of 190 feet (without the project) during the weekday P.M. peak hour could spill back into the adjacent through lane.

Because this northbound left-turn lane will be improved by the project applicant concurrent with project implementation, the added project traffic to this queue is not anticipated to spill back into the adjacent through lane. The addition of traffic associated with the project to this movement is anticipated to result in a 95th percentile queue of 198 feet during the weekday p.m. peak hour. It should be noted that anticipated queue lengths are not directly correlated to their associated volumes, as queuing for a given movement is also dependent on traffic signal operations.

This existing queuing issue would be eliminated with the lengthening of the northbound left-turn pocket included as part of the proposed project. All other site access points and site-adjacent intersections are anticipated to be sufficiently served by existing facilities.

Eastbound and westbound queues on the segment of Rossmoor Center Way between the internal driveway and Seal Beach Boulevard are shown as adequately accommodated in Table 4.4-17 for both Existing (2016) with Full Occupancy without and with the proposed project. However, field observations and experience with this segment reveal that vehicles on occasion fill up the 233 feet between the driveways to the Shops at Rossmoor and Seal Beach Boulevard. The lack of overflow shown in the analysis may be a function of vehicles staying in the upstream northbound left and southbound right movements on Seal Beach Boulevard to avoid illegally blocking the intersection. The queues in Table 4.4-17 show that anticipated inbound queues reach 200 feet in the weekday P.M. peak hour, a length that is less than 40 feet from filling up the entire available inbound lane. The operations of this segment of Rossmoor Center Way affect the upstream northbound left-turn queues, which have been identified in Table 4.4-17 as exceeding the currently available storage.

PROJECT OFF-SITE IMPROVEMENTS

As part of the proposed project and as noted above, the applicant proposes to implement two off-site improvements to access facilities. These include lengthening of the northbound left-turn pocket at the intersection of Seal Beach Boulevard and Rossmoor Center Way to 250 feet and widening Rossmoor Center Way between the internal driveway and Seal Beach Boulevard. This section provides details on these project off-site improvements.

Northbound Left-Turn Pocket Lengthening

The northbound left-turn movement is currently experiencing queues that could extend past the existing left-turn pocket during periods of peak demand. The provision of dual left-turn lanes is one possible solution to long queues. However, if an unequal utilization of the left-turn lanes were probable, the effectiveness of providing two lanes would be greatly diminished. In addition, right-of way may be necessary to implement dual left-turn lanes. In these circumstances, extending the queue available to the single lane may be a better option. As previously referenced Table 4.4-17 shows, the northbound left-turn pocket would require a storage length of approximately 190 feet (an extension of 85 feet) to accommodate Existing (2016) with Full Occupancy peak-hour queues and a storage length of approximately 198 feet (an extension of 93 feet) to accommodate Existing (2016) with Full Occupancy plus Project peak-hour queues. As illustrated in Exhibit 4.4-2, the existing landscaped median along Seal Beach Boulevard would require modification and possibly vacation to provide the recommended storage length. As shown in Exhibit 4.4-2, a storage length of 250 feet (an extension of 145 feet) would not reduce the existing 100-foot southbound left-turn pocket providing access to the adjacent Target shopping center, but may create a situation where the two adjacent left-turn pockets would effectively be “back to back.”

Even though the project would involve extending the northbound turn lane, it should be noted that the proposed project’s contribution to this existing and future queuing deficiency is at most 17 percent during any peak hour under Existing (2016) with Full Occupancy plus Project conditions.

Table 4.4-17
Site Access Queuing Summary

Intersection		Movement	Storage Length	95th Percentile Queue (ft)		
				AM	PM	Sat Mid-day
Existing (2016) with Full Occupancy						
Existing Signal Timing						
6	Seal Beach Boulevard/Rossmoor Center Way	NBL	105	103	190	168
		EBL	230	113	213	185
		EBTR	230	78	81	87
13	Internal Driveway/Rossmoor Center Way	EBLT	190	51	48	56
		EBTR	190	51	50	52
		WBLTR	230	89	165	156
Existing (2016) with Full Occupancy plus Project						
Existing Signal Timing						
6	Seal Beach Boulevard/Rossmoor Center Way	NBL	250	107	198	176
		EBL	230	128	**240**	200
		EBTR	230	82	96	103
13	Internal Driveway/Rossmoor Center Way	EBLT	190	50	56	53
		EBTR	190	49	53	59
		WBLTR	230	96	200	172
Rossmoor Center Way Reconfiguration (Two Westbound Lanes, One and a Half Eastbound Lanes)						
6	Seal Beach Boulevard/Rossmoor Center Way	NBL	250	115	224	210
		EBTL	230	121	231	223
		EBR	150	58	**168**	**168**
13	Internal Driveway/Rossmoor Center Way	EBLTR	190	58	73	80
		WBLT	230	77	180	145
		WBR	230	55	58	64
Addition of Right-In Only Driveway on Seal Beach Boulevard						
13	Internal Driveway/Rossmoor Center Way	EBLT	190	50	50	55
		EBTR	190	50	50	56
		WBLTR	230	85	189	164

Storage Length = Storage length as measured from stop bar to the end of lane striping, ft = feet, NB = northbound, EB = eastbound, L = left, T = through, R = right
BOLD = Exceeds existing storage length

As part of the project proposed, the applicant additionally proposes to make the following offsite improvement to enhance area traffic flow.

Reconfiguration of Rossmoor Center Way (Two Westbound Lanes and One and a Half Eastbound Lanes)

As illustrated on Exhibit 4.4-3, an improvement to reduce the westbound queuing on Rossmoor Center Way between the internal driveway and Seal Beach Boulevard is proposed to increase the capacity for vehicles entering the project site at Rossmoor Center Way/Seal Beach Boulevard. Providing two inbound lanes (460 feet) would increase the storage for incoming vehicles and reduce the chance that vehicles would back out onto Seal Beach Boulevard. The addition of a second westbound lane along Rossmoor Center Way would reduce westbound (inbound) queue lengths to approximately 180 feet (from 200 feet) in the new westbound shared left-turn/through lane and approximately 64 feet in the new westbound right-turn lane. This would mean that the total queue in both lanes, 244 feet, would fit within the total capacity of both lanes (460 feet). However, the restriction of the eastbound lanes along Rossmoor Center Way is anticipated to lengthen eastbound (outbound) queues.

The constraint of this improvement is that the two outbound lanes, which provide 460 feet of storage (230 feet in each lane from Sprouts/Pei Wei to Seal Beach Boulevard), would be reduced to one lane (approximately 380 feet of storage, 230 feet in the shared through left-turn lane and 150 feet in the right-turn lane).

The eastbound (outbound) queues at the intersection of Seal Beach Boulevard and Rossmoor Center Way would be approximately 231 feet (from 240 feet) in the eastbound shared left-turn/through lane and approximately 168 feet (from 96 feet) in the eastbound right-turn lane. The traffic and queueing analysis in the traffic study describes how vehicles on occasion back up past the internal intersection due to the queue of vehicles waiting for the green light at Rossmoor Center Way/Seal Beach Boulevard. Based on observations made in the field by LSA staff, the majority of vehicles turn left at the intersection.

In conclusion, the widening of Rossmoor Center Way would improve existing queuing conditions and avoid any new queuing conditions and the improvement would not increase safety hazards. **Impact would be less than significant.**

PEDESTRIAN MOVEMENT

To illustrate the project's effect on local traffic adjacent to the pedestrians identified, the weekday ADT counts taken in October, 2016 for segments of St. Cloud Drive and Montecito Road are shown below alongside the anticipated project daily traffic.

Table 4.4-18
Existing and Project-Related ADT near Pedestrian Travel Paths

Roadway	Segment	Existing ADT*	Project ADT*	Percent Increase
Saint Cloud Drive	Seal Beach Boulevard and Yellowtail Drive	12,295	61	0.4%
Montecito Road	Yellowtail Drive and Copa De Oro Drive	6,275	49	0.8%
	Copa De Oro Drive and Mainway Drive	5,895	37	0.6%
	Mainway Drive and Bradbury Road	5,647	37	0.7%
* ADT = Average Daily Traffic				

The increases in daily traffic due to project traffic represent an increase of less than one percent at each roadway segment measured. As a result project traffic would not alter existing traffic volumes or the existing pedestrian experience in any noticeable way. **Impact would be less than significant.**

Impact 4.0. E The proposed project would not result in inadequate emergency access.

The proposed project does not include any feature around the building that would impede emergency access, nor would the project result in substantial additional traffic volumes that would decrease the LOS and potentially impede emergency vehicle movement**.** Impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance with Mitigation Incorporated

Not applicable.

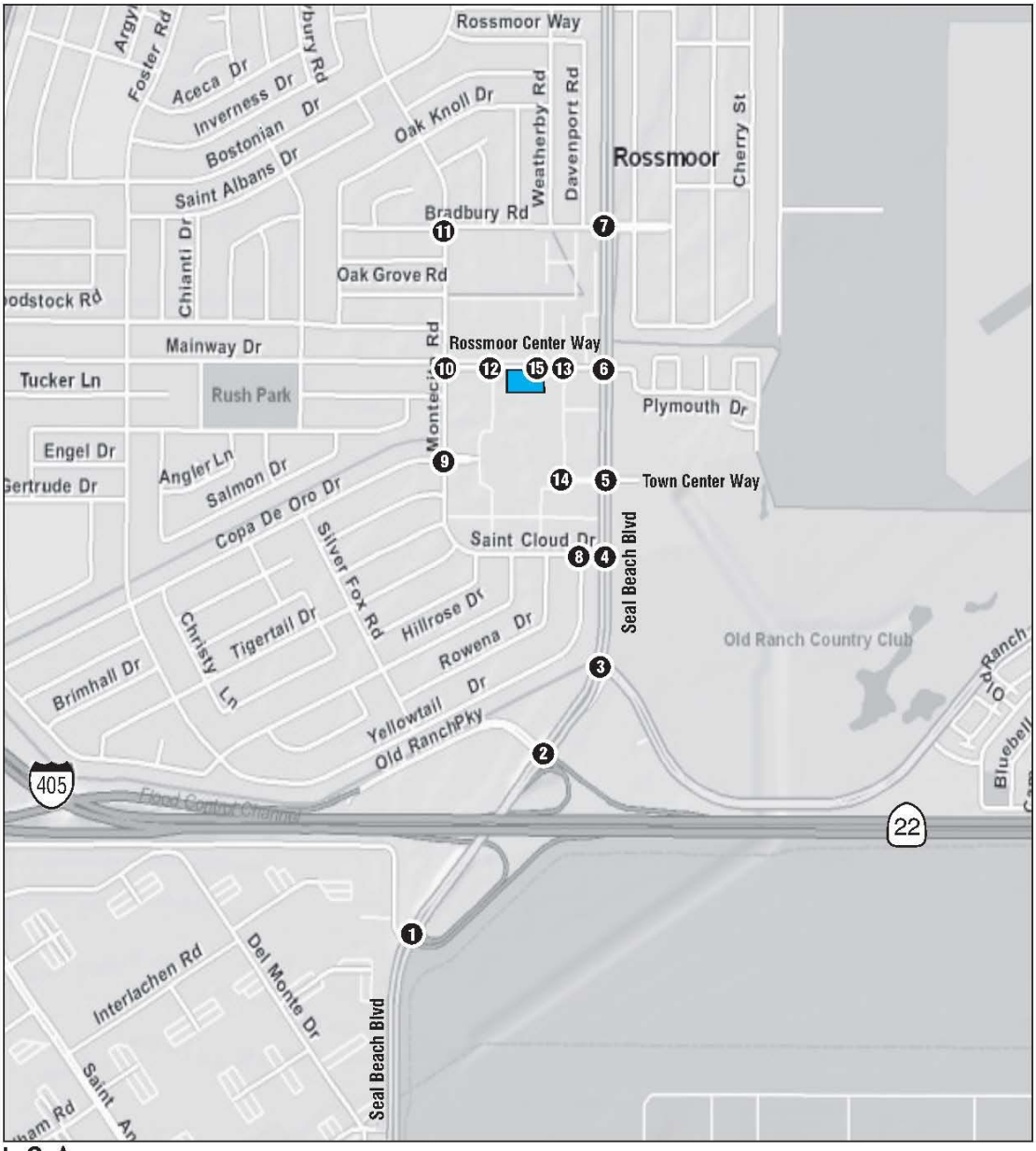

Rossmoor Way
Foster Rd
Aceca Dr
Inverness Dr
Bostonian Dr
Saint Albans Dr
Oak Knoll Dr
Weatherby Rd
Davenport Rd
Rossmoor
Cherry St
Bradbury Rd
Chianti Dr
Oak Grove Rd
Mainway Dr
Rossmoor Center Way
Tucker Ln
Rush Park
Plymouth Dr
Engel Dr
Angler Ln
Salmon Dr
Copa De Oro Dr
Town Center Way
Saint Cloud Dr
Silver Fox Rd
Seal Beach Blvd
Hillrose Dr
Rowena Dr
Old Ranch Country Club
Christy Ln
Tigertail Dr
Brimhall Dr
Yellowtail Dr
Old Ranch Pky
405
22
Interlachen Rd
Del Monte Dr
Seal Beach Blvd
LSA
LEGEND
- Project Site
- Study Area Intersection
N
Health Club within The Shops at Rossmoor
Project Location and
Study Area Intersections
SOURCE: ESRI
I:\MPA1401\G\Location & Study Ints.cdr (12/13/2016)

EXHIBIT 4.4-1

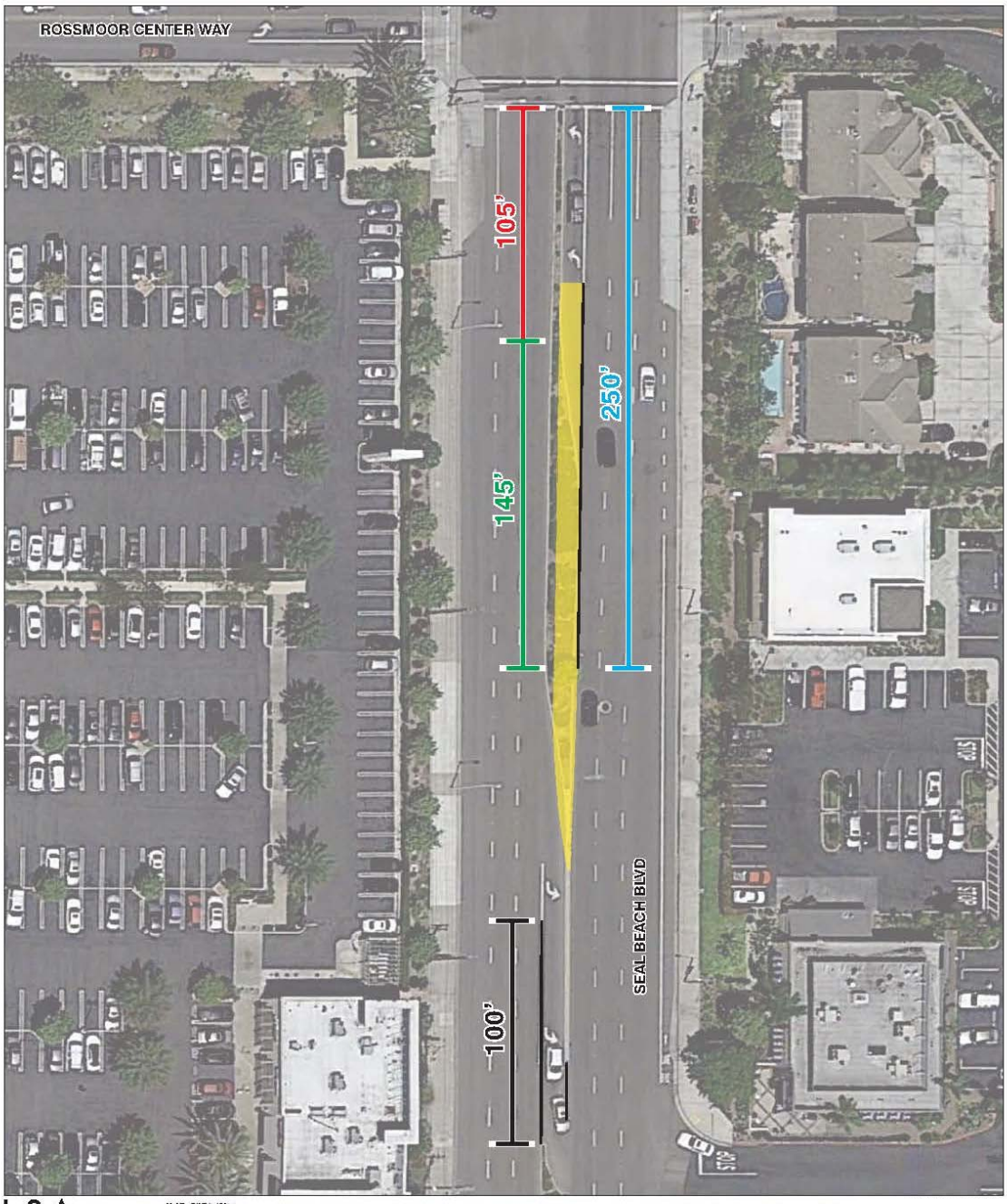
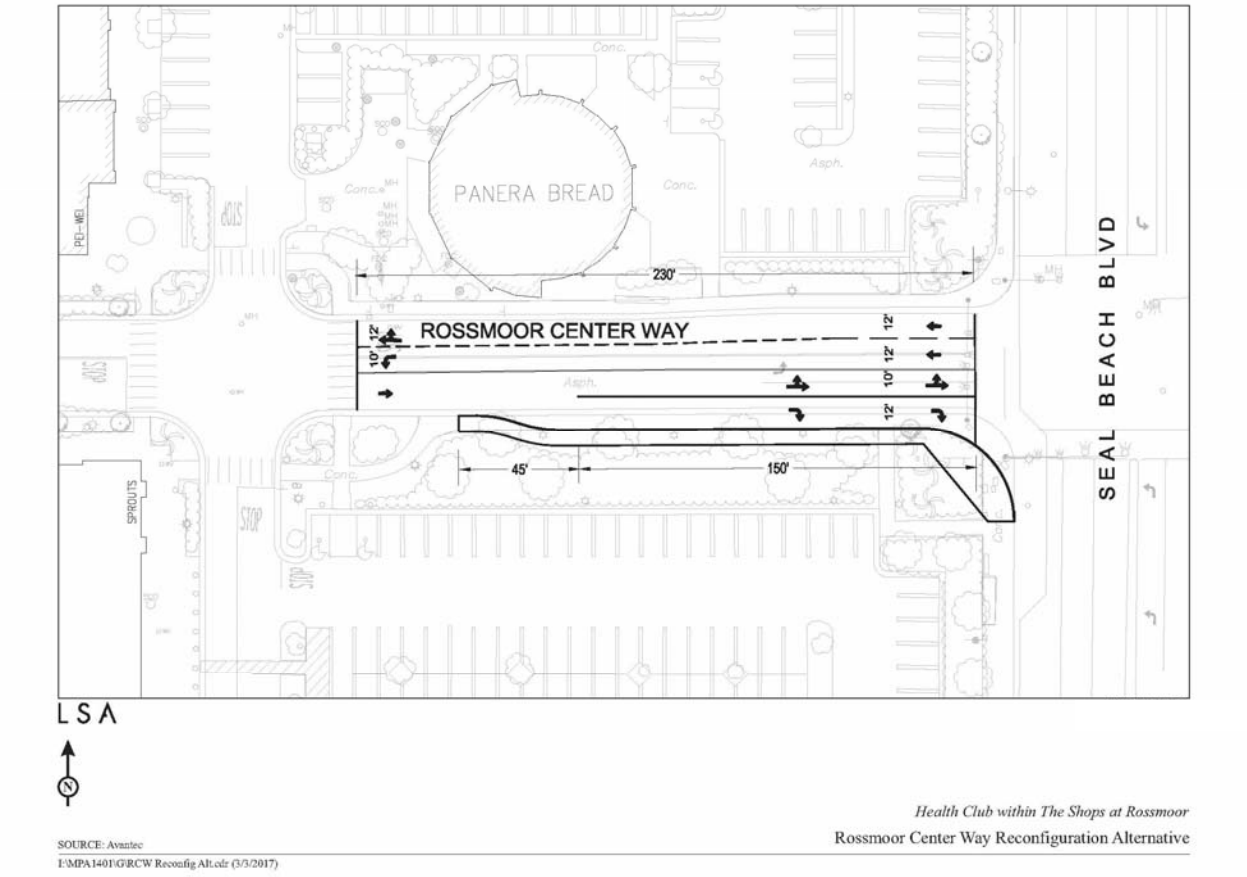

ROSSMOOR CENTER WAY
105'
145'
250'
100'
SEAL BEACH BLVD
LSA
LEGEND
- Recommended Turn Pocket Extension
- Existing Turn Pocket Storage
- Recommended Turn Pocket Storage
- Recommended Extension
N
0 30 60
FEET
SOURCE: Google Earth
I:\MPA1401\G\Turn Pocket Extension.cdr (3/3/2017)
Health Club within The Shops at Rossmoor
Recommended Turn Pocket Extension

EXHIBIT 4.4-2



Health Club within The Shops at Rossmoor
Rossmoor Center Way Reconfiguration Alternative

SOURCE: Avantec
I:\MPA1401\G\RCW Reconfig Alt.cdr (3/3/2017)

EXHIBIT 4.4-3

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Purpose

Section 15126.6 of the CEQA Guidelines requires analysis of a reasonable range of alternatives to the proposed project that would feasibly attain some or all or the main objectives of the proposed project while avoiding or substantially lessening one or more of the significant environmental effects that would occur. This chapter includes examination of alternatives that could reduce short-term construction noise impacts and long-term operational noise impacts (the roof-mounted HVAC equipment) since these are the only potentially significant impacts associated with the project (and can be fully mitigated).

Rationale for Alternative Selection and Alternatives Considered but Rejected

An EIR is not required to consider alternatives that are infeasible, unreasonable, or overly speculative. The CEQA Guidelines do not establish or recommend a standard for the number of alternatives that must be addressed. Instead, the CEQA Guidelines require that an EIR describe a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. The range of alternatives is determined on a case-by-case basis depending on the unique characteristics of the project location, the project objectives, the environmental setting, and the potentially significant impacts that are associated with the project. Accordingly, the specific criteria established by the CEQA Guidelines, and used in this Draft EIR, for the selection of a reasonable range of alternatives for the project are whether it:

1. Feasibly accomplishes most or all of the project's main objectives

2. Avoids or substantially reduces one or more of the significant environmental effects associated with the project

The only potentially significant impacts requiring mitigation which have been identified in this EIR are potential noise impacts resulting from: 1) operation of the roof-mounted HVAC equipment (which would be mitigated with shielding or baffling; see Impact Noise-1) and 2) possible temporary construction noise (which would be mitigated by implementing a construction-related noise mitigation plan; see Impact Noise-2). It should be noted that both of these impacts were determined to be reduced to a less-than-significant level with implementation of the identified mitigation measures.

Alternatives Considered but Rejected

As discussed under Impact 4.3.D in Section 4.3 of the DEIR, absent mitigation, the mounting of the HVAC units on the rooftop could result in a violation of City noise standards due to the potential for the units to generate over 50 dBA as measured at the nearest residences. In the worst-case scenario, the proposed HVAC units would exceed the City's noise standards by no more than 3dBA. To put this 3dBA excess into context, it is worth noting that, as stated in Section 4.3, a 3dBA increase represents the point at which a noise increase "will be generally perceivable by most people." Yet, it falls short of the 5dBA increase in noise which "is considered a noticeable change by most people." Because the amount of noise at issue with respect to the HVAC units is so minimal as to be "perceptible" but not yet "noticeable" and mitigation measures have been provided to reduce this potential project noise impact to a level of insignificance, alternatives focused on the location of the HVAC units have been considered, but rejected, as not providing a meaningful basis for consideration.

Based on community input, an alternative to improving the westbound queuing on the segment of Rossmoor Center Way was evaluated by LSA (traffic consultant). Presumably, an additional access point into the retail center would decrease the number of vehicles using the Rossmoor Center Way. The alternative examined consisted of an inbound

right-in only driveway south of Rossmoor Center Way near the existing Subway restaurant. Upon discussions with City staff and the City's transportation consultant, further investigation of the feasibility of this alternative access improvement was conducted. The City would require a 120-foot deceleration lane on Seal Beach Boulevard to allow the new driveway. This investigation revealed the following challenges of implementing the new driveway and right-in only lane:

- Adding a deceleration lane could pose considerable conflicts with existing public utilities, which would render this option financially infeasible.
- A new driveway would result in a reduction of onsite parking spaces.
- Several of the operating tenants would have to grant their approval for the design.
- The utilization of the new driveway would result in fewer than 50 inbound peak-hour vehicles.

Due to the challenges associated with the Seal Beach Boulevard driveway and right-in only improvement, this alternative was not considered feasible. The Rossmoor Center Way widening alternative is considered to be feasible and thus is the preferred access improvement alternative and has been incorporated into the project description.

Another alternative considered but rejected was placing the proposed project at an alternative location in Seal Beach (a location not in the Shops at Rossmoor; see Alternative 2). This alternative was rejected because it would not meet any of the applicant's project objectives, including those of expanding uses at the Shops at Rossmoor and building out the shopping center in accordance with existing land use entitlements. However, an alternative location is addressed in Alternative 2, which would place the project in a different location within the retail center.

Alternatives Considered

ALTERNATIVE 1: "NO PROJECT" ALTERNATIVE

According to Section 15126.6(e)(2) of the CEQA Guidelines, the evaluation of alternatives in an EIR shall include a "no project" scenario, defined as "...what is reasonably expected to occur in the foreseeable future if the project was not approved, based on current plans and consistent with available infrastructure and community services." For the purpose of this EIR, this alternative assumes that the proposed project would not be constructed. Under Section 15126(e)(3)(B) of the Guidelines, where, as here, the proposed project is "a development project on identifiable property," the "no project" alternative must address "predictable actions by others, such as the proposal of some other project," as opposed to analyzing "a set of artificial assumptions that would be required to preserve the existing physical environment." Therefore, this alternative assumes that if the proposed project is not approved, another project would take its place on this same site.

The applicant has proposed the project at this specific project site and configuration based on detailed marketing and siting analyses. The project site is zoned for the general commercial use, has adequate services and utilities, meets all parking requirements while maintaining the center's parking compliance as a whole, and otherwise is suitable for the fitness center. The center has general commercial zoning, parking in excess of City requirements, and a parking field which, from a planning perspective, invites further commercial development at the project site. As a result, from a business perspective and based upon the fact that the owner of the Shops at Rossmoor already has proposed the health center use for the project site, it is highly predictable that if the project is not approved, the owner would pursue other general commercial uses for the project site and the existing environmental conditions would not be maintained. Therefore, evaluation of the "no project" alternative identifies and focuses upon the practical result of the project's non-approval. If the fitness center is not approved, another general commercial use with similar impacts to the proposed project could be built on the site consistent with City planning and zoning regulations.

The Seal Beach Municipal Code allows many commercial uses in the General Commercial zone, both as a matter of right and subject to Conditional Use Permit approval (such as the proposed health club). Uses permitted as a matter

of right include retail sales businesses, coffee houses, and professional offices. Conditionally permitted uses include full-service restaurants with alcohol sales, building materials sales, and day care centers.

The key public concern raised through the Notice of Preparation process regarding the proposed project was traffic generation and traffic safety. In the analysis in this EIR, traffic impacts have been found to be less than significant. However, to examine how alternative allowed uses on the site might compare to the proposed project in terms of daily trip generation, a comparison of trip rates by land use type was made to determine if any alternative uses would reduce traffic volumes generated.

Table 5-1 provides evening peak-hour trip generation numbers for the proposed land use (health club) and for other uses both permitted and/or conditionally permitted in the General Commercial zone. The trip rates are compared by taking the size of the land use in 1,000 square feet (the proposed project is 37,000 square feet) and multiplying that by the trip rate. For the proposed project, the multiplier 37 would be used with the trip rate to compare the project to other uses. For example, the proposed project would generate 131 vehicle trips per hour to the site during the peak commute hour (4:00 to 6:00 P.M.), whereas a walk-in bank would generate 449 trips during evening peak hours (or 318 trips more than proposed use). A general office use would generate 55 trips during the evening peak hour (or 76 less fewer than the proposed use).

Table 5-1
ITE Trip Rates[1] for Various General Commercial Land Uses

Land Use	ITE Traffic Generation Type	Trip Generation (ITE Trip Rate) per thousand square feet
Commercial Recreation (conditional use)	Health/Fitness club	P.M. Peak Hour: 3.53
Permitted Uses		
Banks and other financial institutions	Bank (walk-in)	P.M. Peak Hour: 12.13
Coffee house/dessert shop	Bakery and cafe	P.M. Peak Hour: 28.00
Nurseries	Garden center	P.M. Peak Hour: 6.94
Office, business and professional	General office building	P.M. Peak Hour: 1.49
Retail sales	Retail clothing store	P.M.Peak Hour: 3.73
Conditional Uses		
Banks and other financial institutions	Bank (drive-in)	P.M. Peak Hour: 24.30
Building material and services	Building materials and lumber store	P.M. Peak Hour: 4.49
Daycare center	Daycare Center	P.M. Peak Hour: 12.46
Full-service restaurant	Quality restaurant	P.M. Peak Hour: 7.49
Home Improvement Sales and Service	Hardware store	P.M. Peak Hour: 4.84
Hospital/clinic	Clinic	P.M. Peak Hour: 5.18
Hotels/motels	Hotel without restaurant	P.M. Peak Hour: 0.60

Additionally, it should be noted that if the "no project" alternative were considered to reflect the maintenance of the existing site conditions without change, not only are the impacts of the proposed project reduced by the proposed mitigation measures to a less-than-significant level, but improvements to existing traffic deficiencies which are proposed as part of the project description might not be made, thus leaving queuing at the northbound left-turn lane from Seal Beach Boulevard to Rossmoor Center Drive in a deficient state. The proposed project, therefore, represents an environmentally superior proposal to the existing site conditions.

[1] The Institute of Transportation Engineers'(ITE) Trip Generation informational report provides trip generation rates for numerous land use and building types. ITE Procedures estimate the number of trips entering or exiting a site at a given time (sometimes the number entering and exiting combined is estimated). ITE Rates are functions of type of development, and square footage, number of gas pumps, number of dwelling units, or other standard measurable things.

ALTERNATIVE 2: ALTERNATIVE LOCATION AT THE SHOPS AT ROSSMOOR SHOPPING CENTER

A second alternative evaluated was locating the 37,000-square-foot health club to vacant tenant space within the Shops at Rossmoor, specifically the space most recently occupied by an 8,827-square-foot Marie Callender's Restaurant, just west of Seal Beach Boulevard (see Exhibit 5-1). This would require demolition of the existing restaurant building. If the health club were relocated within the shopping center, primary access could be from Seal Beach Boulevard at Towne Center Drive. Additionally, although it might make a minor, if any, reduction in traffic on Montecito Road, it would not have a materially different effect on that traffic, given that the proposed project's contribution to various segments of Montecito Road was less than one percent of the total Montecito Road traffic (see Chapter 4.4). In the short term, this alternative would eliminate, for nearby residents, noise associated with the project construction. Construction noise, however, was not found to have a significant impact after mitigation, so this alternative would not eliminate an unmitigable significant impact.

This alternative could redirect additional traffic associated with the health club from Rossmoor Center Way to Towne Center Drive if the alternative site were located in the southern portion of the shopping center. However, since traffic impacts were not found to be adversely significant, relocating the proposed health club to another site within the Shops at Rossmoor would not be needed to avoid or reduce an identified significant adverse traffic impact.

This alternative would result in the loss of a significant sales tax revenue opportunity for the City, as it would replace a highly visible retail site with a fitness center which would not generate significant taxable sales. Also, this alternative could require improvements to the existing left -turn lane from Seal Beach Boulevard. to address today's existing queuing deficiencies at that location. While this alternative would meet one project objective of expanding the center's square footage consistent with the existing entitlements, it would not satisfy any of the others. The demolition of the building would add additional environmental considerations related to, among other things, noise, dust, and disruption of immediately adjacent traffic, to the same environmental considerations evaluated in this EIR for the proposed project. This alternative would reduce the amount of presently available customer parking located in close proximity to existing businesses, including Toys R Us, Kohl's, Rite Aid, and the hair and nail salons, forcing customers to use parking in the rear of the center, which is in the isolated area now proposed for the health club. In addition, from the perspective of the retailers, because of its increased height relative to the existing restaurant building (to accommodate a second floor), it might limit drivers' ability to identify businesses within the center.

Furthermore, moving the health club to the Marie Callender's site would not guarantee that another commercial building would not be developed on the project site consistent with the center's existing land use entitlements. (Refer to the earlier discussion of the No Project Alternative.) Depending on the proposed use, such a project could have greater or lesser impacts than those analyzed for the proposed project. As a result, Alternative 2 offers no clear environmental benefits over the proposed project.

Evaluation of Alternatives Impacts Relative to the Project

IMPACT COMPARISON

Air Quality

The proposed pollutant emissions associated with the proposed project would not exceed the CEQA significance threshold developed by the SCAQMD and, therefore, would not result in a significant impact. If the fitness center project is not approved, it is likely that another commercial land use would be established consistent with zoning regulations. Based on the type of use, air quality emissions could be greater or less than the proposed use, but it is most likely that other permitted general commercial uses would, like the proposed project, not exceed the SCAQMD threshold and would not, therefore, be preferable to the proposed project with respect to potential air quality impacts.

Assuming under Alternative 2 the building would be the same size and design, the air quality impacts would be similar to those assessed for the project: less than significant. If building demolition were involved, additional emissions would result. Another use or alternative location at the Shops at Rossmoor would be subject to new CEQA review to determine site-specific and vicinity air quality emissions impacts, as has been performed for the proposed project.

Greenhouse Gas Emissions and Climate Change

The proposed project would not result in direct or indirect GHG emissions that would have a significant effect on the environment or conflict with an applicable GHG reduction plan, policy, or regulation; therefore, the proposed project would not result in cumulatively considerable GHG impacts. If the fitness center project is not approved, it is likely that another commercial land use would be established consistent with zoning regulations. Based on the type of use, GHG emissions could be greater or less than the proposed use. Assuming under Alternative 2 the building would be the same size and design, the greenhouse gas impacts would be similar to those assessed for the project: less than significant. Another use or alternative location at the Shops at Rossmoor would be subject to new CEQA review to determine site-specific and vicinity GHG emissions impacts, as has been performed for the proposed project.

Noise

Two potential noise impacts have been identified for the proposed project. The first is noise from operation of the rooftop HVAC equipment. The second is construction noise. Mitigation measures have been provided so that these impacts would be reduced to less-than-significant levels.

If the fitness center project is not approved, it is likely that another commercial land use would be established consistent with zoning regulations. Any alternative use would have an HVAC system and would require construction from the ground up. All such HVAC equipment would have to comply with City noise standards. Similarly, the construction noise impacts related to the fitness center are no different than would be expected to occur from any other typical general commercial construction project. While there may be minor variations, one way or the other, in the scope of noise impacts generated by a different general commercial use, there is no basis for concluding that those impacts would be less significant than the impacts identified and mitigated in the evaluation of the proposed project.

While Alternative 2 would remove the potential for noise associated with HVAC equipment to exceed City standards at the residential property line, the alternative might involve demolition of existing structures or the loss of convenient customer parking to avoid the same noise impact as would be fully mitigated by the proposed mitigation options for the proposed project. As a result, moving to another location within the Shops at Rossmoor would not eliminate any remaining noise impact of the proposed project.

Transportation and Traffic

The proposed project would result in less than significant transportation and traffic impacts with incorporation of the improvements proposed by the applicant on Seal Beach Boulevard. It should be noted, however, that as part of the project, improvements to the northbound left turn land from Seal Beach Boulevard to Rossmoor Center Drive would be implemented. These improvements eliminate an existing queuing deficiency which the project has no obligation to remedy in full.

If the fitness center project is not approved, it is likely that another commercial land use would be established consistent with zoning regulations. Based on the type of use, trip generation could be less than the proposed project, similar to the project, or it could generate more traffic than the fitness center. The trip rate data shown in Table 5-1 above indicate that except for office, professional, or hotel uses (with no restaurant), most land uses that could be developed under existing zoning regulations could result in more evening peak-hour traffic in the project area than the proposed project. Notably, other projects might not be required to remedy the entire existing queuing deficiency that the proposed project has included. Because the City cannot require a project to improve existing deficient conditions in a manner which exceeds the project's roughly proportional contribution to the condition, it would not be proper to assume that the proposed correction of the queuing deficiency would be included as part of other general commercial projects which might be proposed if this project is not approved. As a result, the environmental impacts of other general commercial

projects are likely to be equivalent to those of the proposed project, but the environmental benefits are likely to be less substantial.

Alternative 2 could redirect additional traffic associated with the health club from Rossmoor Center Way to Towne Center Drive. However, since traffic impacts were not found to be adversely significant, relocating the proposed health club to another site within the Shops at Rossmoor would not be needed to avoid or reduce an identified significant adverse traffic impact.

Environmentally Superior Alternative Other than the No Project Alternative

The proposed project is consistent with the land use and zoning designations of the City, has adequate services and utilities to serve it, and would not result in unmitigated significant impacts. In addition, it would remedy in full the existing queuing deficiency discussed above. The alternative of the construction and operation of any general commercial use on the project site is likely to present the same impacts identified for the proposed project and result in the same or equivalent mitigation of those impacts, but fail to remedy the existing queuing deficiency. Relocating the project to another location at the Shops at Rossmoor would not preclude the development of another commercial use on the project site, which could have greater or lesser impacts that the proposed project. As a result, no alternative has been identified which is environmentally superior to the proposed project.

Source: Google 2016; MIG 2017

Exhibit 5-1 Alternative 2
Rossmoor LA Fitness
City of Seal Beach California

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6.0 Analysis of Long-Term Effects

CEQA requires the discussion of the cumulative impacts and growth-inducing impacts. Sections 6.1 and 6.2 address these issues as they relate to construction of the health club. Additionally, an energy conservation analysis (Section 6.3) has been prepared pursuant to California Public Resources Code Section 21100(b)(3) and Appendix F of the CEQA Guidelines.

6.1 CUMULATIVE IMPACTS

Sections 15130(a) through 15130(e) of the State CEQA Guidelines require that an EIR include a discussion of cumulative impacts. Section 15355 of the State CEQA Guidelines defines a cumulative impact as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Section 15130(b)(1) of the State CEQA Guidelines identify two methods to determine the scope of projects for cumulative impact analysis:

> List Method. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.
>
> Projection Method. A summary of projections contained in an adopted general plan or related planning document or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency.

The analysis below uses the list method. Although the City of Seal Beach did not have any cumulative projects to consider in the analysis, the neighboring City of Los Alamitos provided two projects that could contribute cumulatively to project impacts, in particular regarding traffic and transportation.

- Village 605 – 3131 Katella Avenue: Replacement of existing office use with the construction of a 113,800-square-foot neighborhood retail center within seven buildings
- Fairfield Inn & Suites – 10650 Los Alamitos Boulevard (north of Bradbury Road): Construction of a 108-room hotel

AESTHETICS

The Initial Study found that no significant aesthetic impacts are associated with development of the health club. There are no other projects in the immediate vicinity that are proposed to be built in the near future; therefore, the project would not contribute cumulatively to the degradation of scenic vistas, views, visual character, or increase impacts related to light and glare.

AGRICULTURAL RESOURCES

Analysis of agricultural impacts was addressed in the Initial Study. No agricultural impacts would be associated with the health club as there are no agricultural resources in the project vicinity. The project could not contribute cumulatively to loss of farmland or forest land, or conflict with agricultural or timberland zoning.

AIR QUALITY

The context for assessing cumulative air quality impacts is the South Coast Air Basin in terms of national and State criteria pollutant standards. The immediate vicinity of the project site is the context for localized levels of criteria pollutants. Cumulative short-term, construction-related emissions and long-term, operational emissions from the project would not contribute considerably to any potential cumulative air quality impact because short-term project

and operational emissions would not exceed any SCAQMD daily threshold. As it is required for the proposed project, other concurrent construction projects and operations in the region, such as the Village 605-3131 Katella Avenue Project and Fairfield Inn & Suites located in the City of Los Alamitos, would be required to implement standard air quality regulations and mitigation pursuant to CEQA requirements. Such measures include compliance with SCAQMD Rule 403, which requires actions to limit dust and particulate matter emissions. Impacts would be less than significant.

Biological Resources

Analysis of biological resource impacts was addressed in the Initial Study. No biological resource impacts would be associated with the health club. Because the project would have no biological impact, it would not contribute cumulatively to loss of listed or special concern species, natural communities, wetlands, or movement corridors. Also, it would not conflict with local policies or ordinance protecting biological resources, including a habitat conservation plan.

Cultural Resources

Analysis of cultural resource impacts was addressed in the Initial Study. No significant cultural resource impacts would be associated with the development of the health club. Consultation with Native American tribes pursuant to AB52 was conducted, and no impacts were identified. Since cultural resource impacts associated with a relatively small infill project are primarily site specific, the project will not contribute cumulatively to a change or significance in a historical, archaeological, or paleontological resource, or adversely affect important Native American resources.

Geology and Soils

Analysis of geologic and soil related impacts was addressed in the Initial Study. No significant impacts related to geologic or soil resources would be associated with the health club. Since geologic and soil impacts associated with a relatively small infill project are primarily site specific, the project would not contribute cumulatively to exposing people or structures to hazards associated with earthquakes, strong seismic shaking, ground failure, landslides, or unstable soils.

Greenhouse Gas Emissions

Unlike air quality, which is influenced by local and regional factors and is therefore considered on the local or regional scale, the effects of global climate change are the result of greenhouse gas (GHG) emissions worldwide. Individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable. As described Section 4.2, Greenhouse Gases, the proposed project would not result in direct or indirect GHG emissions that have a significant effect on the environment or conflict with an applicable GHG reduction plan, policy, or regulation. Therefore, the project would not result in cumulative considerable GHG impacts.

Hazards and Hazardous Materials

Analysis of impacts related to hazards and hazardous material impacts was addressed in the Initial Study. No significant impacts related to hazards and hazardous materials would be associated with construction of the health club. The project would not contribute cumulatively to exposing people to hazards associated with the transport of hazardous materials, hazardous materials upset, or hazardous emissions because it is not the type of project that involves routine transport of hazardous material, or which produces hazardous emissions. No hazards associated with public or private airports impact the immediate surrounding area.

HYDROLOGY AND WATER QUALITY

Analysis of hydrology and water quality related impacts was addressed in the Initial Study. No significant impacts related to hydrology and water quality would be associated with construction of the health club. The project would tie into the existing storm water system of the shopping center and it would implement appropriate best management practices in the design of the landscaping. During construction, the project would comply with NPDES regulations. As a result, the project would not contribute cumulatively to the violation of any water quality standards, depletion of groundwater resources, altering drainage courses or patterns, flooding, or other water quality degradation.

LAND USE AND PLANNING

Analysis of impacts related to land use and planning was addressed in the Initial Study. No direct impacts related to land use and planning would result from the health club. Indirect impacts relating to air quality, greenhouse gases, noise, and traffic/transportation are addressed in this EIR. Because the project would not have any direct land use impacts, the project would not contribute cumulatively to dividing a community, creating conflicts with land use plans and policies, or conflict with a habitat conservation plan.

MINERAL RESOURCES

Analysis of impacts on mineral resources was addressed in the Initial Study. No impacts related to mineral resources would be associated with the health club. Because the project would have no impacts on mineral resources, it would not contribute cumulatively to the loss of known mineral resources of local value to the region or State or locally important mineral resources.

NOISE

Implementation of the proposed project would have a localized operational impact related to the operation of a rooftop HVAC units, but the impact would be reduced to less than significant with implementation of a mitigation measure that would screen or otherwise suppress HVAC noise to achieve City standards. The project would not contribute cumulatively to an increase in short-term or long-term noise or vibration impacts because the cumulative projects considered in the analysis are too far away from the project site to contribute to or exacerbate project noise.

POPULATION AND HOUSING

Analysis of impacts related to population and housing was addressed in the Initial Study. No impacts related to population and housing would be associated with construction of the health club, including growth-inducing impacts since the project is an infill project. For this reason, the project would not contribute cumulatively to inducing population growth, displacing substantial numbers of housing units, or displacing substantial numbers of people.

PUBLIC SERVICES

Analysis of impacts related to public services was addressed in the Initial Study. No significant impacts related to population and housing would be associated with development of the health club. There are no other projects in the immediate vicinity that are proposed to be built in the City in the near future; therefore, the project would not contribute cumulatively to City's ability to provide adequate services for fire protection, police protection, schools, parks, or other public facilities.

RECREATION

Analysis of impacts related to recreation was addressed in the Initial Study. No impacts related to recreation would be associated with the health club. Because the project will have no impacts on recreation resources, it would not contribute cumulatively to accelerated degradation of neighborhood parks or to the need to construct or expand recreational facilities which might have an adverse physical effect on the environment.

TRANSPORTATION AND TRAFFIC

According to the project applicant, the proposed project will be completed by the end of 2018. In order to present a near-term 2018 traffic condition, an ambient growth rate of 0.5 percent per year was added to existing traffic volumes along with traffic from the unoccupied parcel within The Shops at Rossmoor. This growth rate is consistent with the growth rate utilized in the previous traffic analysis and which was reached through consultation with City staff.

In addition to the inclusion of an ambient growth rate, anticipated traffic from nearby planned developments that may utilize the study area roadway facilities by the time the project is planned to be built and operational was considered in the analysis. The neighboring City of Los Alamitos was contacted for information on anticipated developments that may contribute traffic to study area facilities. Based on information provided by City of Los Alamitos staff, traffic from the cumulative projects in Los Alamitos cited above was included in the analysis.

Summary of Project Completion Year (2018) with Full Occupancy Peak Hour LOS for study area intersections and roadway segments are presented in previous Tables 4.4-13 (Project Completion Year 2018 with Full Occupancy Peak Hour Intersection Level of Service Summary) and Table 4.4-14 (Project Completion Year 2018 with Full Occupancy Peak Hour Roadway Level of Service Summary), respectively. LOS for study area intersections and roadway segments associated with the addition of the proposed project (plus Health Club) are presented in previous Tables 4.4-15 (Project Completion Year 2018 with Full Occupancy Plus Health Club Peak Hour Intersection Level of Service Summary) and 4.4-16 (Project Completion 2018 with Full Occupancy Plus Health Club Peak Hour Roadway Level of Service Summary), respectively. As shown on the tables, all study area intersections and roadway segments are anticipated to operate at satisfactory LOS (LOS D or better) under Project Completion Year (2018) with Full Occupancy conditions, without and with the proposed health club. Cumulative traffic impacts would be less than significant.

UTILITIES AND SERVICE SYSTEMS

Analysis of impacts related to utilities and service systems was addressed in the Initial Study. No significant impacts related to utilities and service systems would be associated with development of the health club. There are no other projects in the immediate vicinity that are proposed to be built in the near future; therefore, the project would not contribute cumulatively to the exceedance of wastewater treatment standards, the need to build new or expanded wastewater facilities, the need to expand water supplies, or the need to increase the capacity of landfills.

6.2 GROWTH-INDUCING IMPACTS

Growth-inducing effects include ways in which the proposed project could foster economic or population growth, either directly or indirectly, in the surrounding environment. A prime example is a major infrastructure project or road extension which provides urban service capacities to currently undeveloped areas, thus removing an obstacle to population growth. The proposed health club project would generally serve the existing population and is not the type of land use that would cause new residents to move to the area. The surrounding neighborhood is fully urbanized. Thus, the project would not create growth-inducing effects.

6.3 ENERGY CONSERVATION

The purpose of this analysis is to assess the short- and long-term energy demand of the proposed project, identify proposed and required conservation measures, and assess the extent to which the proposed project would conserve energy. Project energy demand would not be wasteful, inefficient, or unnecessary if the project would not increase energy demand over typical construction and operating requirements.

The goal of conserving energy implies the wise and efficient use of energy. In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (see Public Resources Code section 21100[b][3]). Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.

ENVIRONMENTAL SETTING

According to the California Energy Commission's (CEC) 2013 Integrated Energy Policy Report, Californians consumed about 280,561 gigawatt hours (GWh) of electricity and more than 12,700 million British thermal units (BTU) of natural gas in 2012.[1] The U.S. Energy Information Administration estimates that by 2024, California's electricity consumption will reach between 308,277 GWh and 337,713 GWh, an annual average growth rate of 0.79 to 1.56 percent, and natural gas consumption is expected to reach between 13,773 million and 14,175 million BTU by 2022, an average annual growth rate of 0.7 to 0.94 percent.

Three large investor-owned utility companies supply energy to California: Pacific Gas and Electric (PG&E), San Diego Gas and Electric, and Southern California Edison.[2] Approximately 70 percent of California's electricity is generated from power plants located within the State and from plants that are outside of the state but owned by California utilities. About 10 percent is imported from the Pacific Northwest and 20 percent from the American Southwest.[3] In-state power is attained from 61.1 percent natural gas, 17.1 renewable energy and 11.7 percent large hydropower. A small portion of the State's local energy, 0.8 percent, is generated from coal.

Due in part to the State's emphasis on renewable energy, California is second in leading the nation when it comes to net electricity generation from renewable resources. A top producer of electricity from conventional hydroelectric power, California is also a leader in net electricity generation from several other renewable energy sources. In 2010, California generated 58,881 GWh in renewable electricity, accounting for 22.7 percent of the State's overall electricity sales.

[1] California Energy Commission (CEC) 2013. *Renewables Portfolio Standard Eligibility: Seventh Edition.* Publication Number: CEC-300-2013-005-ED7-SD

[2] California Public Utilities Commission (CPUC) 2013. *California Renewable Portfolio Standard (RPS)*. http://www.cpuc.ca.gov/PUC/energy/Renewables/index.htm. Accessed August 18, 2014.

[3] California Energy Commission (CEC) 2011. *2011 Integrated Energy Policy Report*. Publication Number: CEC-100-2011-001-CMF. Accessed July 25, 2015. <http://www.energy.ca.gov/2014publications/CEC-100-2011-001/CEC-100-2011-001-CMF.pdf>

According to the CEC, total electricity use in Orange County was 20,887 million kilowatt hours (kWh) in 2015, including 14,092 million kWh of consumption for non-residential land uses. Natural gas consumption was 551 million therms[4] in 2015, including 234 million therms from non-residential uses.[5]

REGULATORY SETTING

Clean Energy and Pollution Reduction Act of 2015 (SB-350)

On April 29, 2015, Governor Edmund G. Brown Jr. signed Executive Order B-30-15, establishing a new statewide goal to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030. The Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350, DeLeon, Chapter 547, Statutes of 2015) (SB 350) subsequently codified two of the Governor's goals for reducing carbon emissions: increasing renewable electricity procurement to 50 percent by 2030, and doubling energy efficiency savings by 2030. The State currently uses renewable energy to serve about 25 percent of its electricity consumption.[6]

California Building Standards Code

The California Building Standards Code (Title 24 of the California Code of Regulations) was enacted in 1978 to ensure that all new construction meets a minimum level of energy efficiency standards. California's Building Energy Efficiency Standards are updated on an approximate three-year cycle. The current 2016 standards went into effect January 1, 2017. Subchapters 7 and 8 of Title 24, Part 6 contain mandatory standards for new low-rise residential buildings related to insulation, heating and cooling, lighting, shading and roofing.

Seal Beach has adopted the 2016 edition of the CBC (Title 24), including the California Green Building Standards Code. The project would be subject to the California Green Building Standards Code, which requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies for large buildings, divert construction waste from landfills, and utilize low pollutant-emitting finish materials.

ENERGY DISCUSSION

Short-term energy demand would result from construction of the health club. This would include energy demand from worker and vendor vehicle trips and construction equipment usage. Long-term energy demand would result from operation of the health club. This would typically include energy demand from vehicle trips, electricity and natural gas usage, and water and wastewater conveyance. This discussion generally describes the energy needs of these activities and how they are applicable to the proposed project.

Construction Activities

The proposed project involves the construction of a single-story, 37,000-square-foot private health club located in the City of Seal Beach. The health club would be constructed on a parking lot currently serving the Shops at Rossmoor. Project construction is anticipated to begin in mid-2017, with completion by the end of 2018. Construction would require the use of heavy-duty construction equipment (e.g., backhoes, scrapers, loaders, etc.) during most phases of construction. Phasing of construction associated with development of the proposed health club would involve demolition of the existing pavement on the project site, site preparation, site grading, building construction, paving, and painting (including restriping of the entire Shops at Rossmoor parking lot). This construction would result in use of gasoline and diesel fuels used to power workers' vehicles and equipment.

[4] Thems a unit of heat equivalent to approximately 100,000 BTUs.

[5] California Energy Commission (CEC) 2016. "Electricity Consumption by County". Web. <http://ecdms.energy.ca.gov/elecbycounty.aspx>

[6] California Energy Commission (CEC) 2014. *Renewable Energy Overview and Programs.* http://www.energy.ca.gov/renewables/. Accessed August 19, 2014.

Operational Activities

Once constructed, the private health club would provide numerous amenities to its members. Facilities in the health club would include free weights, circuit training, a pool, a basketball court, separate rooms for aerobics and spinning, a personal training room, men's and women's showers and lockers, a hot yoga studio, a physical therapy room, and a children's area. Operation of the health club would involve energy usage from mobile sources (used by members to get to the health club), electricity (used for lighting, powering equipment, and water transport), and natural gas (for heating).

In addition to estimating criteria pollutants and greenhouse gas emissions, the California Emissions Estimator Model (CalEEMod, Version 2016.3.1) utilized in Section 4.3, Air Quality, and Section 4.7, Greenhouse Gases, also provides some utility consumption estimates (including solid waste generation). Metrics provided below for electricity and natural gas utilize this estimated information.

Mobile Sources

Mobile source energy demand primarily is associated with individual vehicle energy demand and therefore gasoline and diesel fuel primarily, as well as electricity increasingly for electric vehicles. Mobile source energy demand may also be associated with public transportation such as buses and trains associated with natural gas, diesel fuel, or electricity.

Electricity and Natural Gas Use

Energy consumption resulting from physical operation of the proposed health club would come in the form electricity and natural usage. Electricity would be used to power the lighting, air conditioning, and various pieces of equipment (e.g., treadmills, ellipticals, etc.). Natural gas would most likely be used to heat various portions of the facility, such as the hot yoga studio, the pool water, and the showers. The CalEEMod model run estimates the proposed health club would consume approximately 775 million BTUs per year, and approximately 350,000 kilowatt-hours per year (kWh/yr).

Water and Wastewater

Electricity would indirectly be required to transport and treat water at the proposed health club. Potable water would be transported to the facility by existing utility lines serving the Shops at Rossmoor. This water conveyed to the facility would then be used for drinking, showering, and swimming. Wastewater generated by showering and/or other hygienic activities would be transported to a wastewater treatment facility where it would undergo purification. The CalEEMod model run estimates total water usage related to the proposed health club would be approximately two million gallons per year for indoor use. A portion of the estimated consumption of 350,000 kWh/yr would be utilized for this water transport.

Energy Conservation

The project would be subject to State water and energy efficiency regulations pursuant to the California Building Code CBC[7] that would reduce long-term project energy demand. These requirements would reduce wasteful, inefficient, and unnecessary consumption of energy over the long-term. In addition, according to LA Fitness representatives LA Fitness designs its projects with many energy-efficient features (Greg Gill, LA Fitness, 2/02/17), including the following:

1. High-efficiency LED lighting, fully dimmable generating up to 30% reduction in lighting energy
2. Occupancy sensors to reduce energy use in unoccupied rooms
3. Daylight harvesting zones to turn off lights when enough daylight is available
4. Heat exchanger (using hot water already in circulation for showers and faucets) in lieu of separate gas-heater to heat pool

[7] California Building Standards Commission. 2011 California Building Code. January 2011.

5. Heat exchanger utilizes locker area hot water in lieu of separate gas-heater to heat pool
6. High-efficiency low-glare glass in excess of code requirement
7. High insulation levels at the walls of R 19 in excess of code requirements
8. Cool roof
9. Skylights
10. 96% efficient water heaters
11. Central Energy Management System, that turns off HVAC and lighting to rooms when they are not scheduled for use
12. Demand response signal from the utility that reduces energy use by 15% when the utility is experiencing a peak
13. Demand control ventilation system, which uses sensors to automatically reduce outside air intake when there are fewer occupants
14. Hands-free auto faucets with flow restrictors

CONCLUSION

The proposed project involves the construction and operation of a new health club on an existing parking lot within an established commercial center. The area in which the project is located is urbanized and developed with residential land uses to the west and north and commercial development to the south and east. Due to the project's location, it is likely people living in the area or visiting the area would be inclined to visit the health club instead of travelling to a health club that may be farther away. Although the project would increase energy usage compared to current conditions, this energy would not be wasteful or inefficient due to the building codes and standards the project would comply with. Furthermore, as a new facility, many of the pieces of equipment located in the proposed health club would be new higher energy efficient equipment, and as stated above, many energy-efficient features would be designed into the building. Energy demand for the project would not be wasteful, inefficient, or unnecessary.

6.4 UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS

The analysis presented in Section 4 found that the project would not create any unavoidable significant environmental impacts.

7.0 Effects Found Not to Be Significant

CEQA Guidelines Section 15128 requires a statement indicating the reason that various possible significant effects are determined not to be significant and therefore are not discussed in the EIR. The November, 2016 Initial Study prepared for the project determined that the impacts listed below would not occur or would be less than significant; therefore, these topics have not been further analyzed in this DEIR. Please refer to Appendix A (Initial Study/Negative Declaration) for explanations of the basis for these conclusions.

AESTHETICS

- Scenic Vista – No Impact
- Scenic Resources – No Impact
- Visual Character – Less than Significant Impact
- Light and Glare -- Less than Significant Impact

AGRICULTURE RESOURCES

- Farmland Mapping and Monitoring Program – No Impact
- Agricultural Use/Williamson Act – No Impact
- Rezoning Forest Land/Timberland – No Impact
- Conversion/Loss of Forest Land – No Impact
- Farmland Conversion – No Impact

BIOLOGICAL RESOURCES

- Sensitive Natural Communities – No Impact
- Riparian Habitat/Sensitive Natural Community – No Impact
- Wetlands – No Impact
- Wildlife Migration – No Impact
- Local Policies/Ordinances Protecting Biological Resources – Less than Significant Impact
- Conservation Planning – No Impact

CULTURAL RESOURCES

- Historical Resources – No Impact
- Archaeological Resources – Less than Significant Impact
- Paleontological Resources – Less than Significant Impact
- Human Remains – Less than Significant Impact
- Tribal Consultation under AB52: In January, 2017, the City of Seal Beach send letters to Tribes that had requested consultation on projects being proposed in the City regarding the preparation of the DEIR for the project. The Gabrieleno Band of Mission Indians – Kizh Nation responded to the consultation request on February 1, 2017. They requested that their certified Native American Monitor be on site during ground-disturbing activities, which is a typical request but generally not necessary in already-developed areas.

GEOLOGY AND SOILS

- Fault Rupture – No Impact
- Seismic Ground Shaking – Less than Significant Impact
- Landslides – Less than Significant Impact
- Loss of Topsoil – Less than Significant Impact

- Expansive Soil – Less than Significant Impact
- Septic Tanks – No Impact

HAZARDS AND HAZARDOUS MATERIALS

- Hazardous Materials Transport/Use/Disposal – Less than Significant Impact
- Release of Hazardous Materials – Less than Significant Impact
- Hazards near Schools - Less than Significant Impact
- Located on Known Hazardous Site – No Impact
- Airport Land Use Plan – Less than Significant Impact
- Private Airstrips – Less than Significant Impact
- Emergency Planning – Less than Significant Impact
- Wildland Fires – No Impact

HYDROLOGY AND WATER QUALITY

- Water and Wastewater Standards – Less than Significant Impact
- Groundwater Supplies and Recharge – Less than Significant Impact
- On – and Off-Site Erosion – Less than Significant Impact
- On – and Off-Site Flooding – Less than Significant Impact
- Water Quality – No Impact
- 100-Year Flooding and Housing – No Impact
- Impedance/Redirection of 100-Year Flooding – No Impact
- Dam or Levee Failure – No Impact
- Seiche, Tsunami, or Mudflow – No Impact

LAND USE AND PLANNING

- Division of Communities – No Impact
- Conflict with Applicable Land Use Policies, Plans, Regulations – Less than Significant Impact
- Conservation Planning – No Impact

MINERAL RESOURCES

- Regional Mineral Resources – No Impact
- Local Mineral Resources – No Impact

NOISE

- Airport Vicinity – Less than Significant Impact
- Private Airstrip Vicinity – Less than Significant Impact

POPULATION AND HOUSING

- Induce Substantial Growth – Less than Significant Impact
- Displacement of Housing – No Impact
- Displacement or People – No Impact

PUBLIC SERVICES

- Fire Protection – Less than Significant Impact
- Police Protection – Less than Significant Impact
- Schools – Less than Significant Impact
- Parks -- Less than Significant Impact
- Other Public Facilities – No Impact

RECREATION

- Increase Use of Neighborhood Parks – No Impact
- Require Expansion of Recreational Facilities – No Impact

UTILITIES AND SERVICE SYSTEMS

- Exceed Wastewater Treatment Requirements – Less than Significant Impact
- Require Construction of New Wastewater Treatment Facilities - Less than Significant Impact
- New Stormwater Drainage Facilities - Less than Significant Impact
- Have Sufficient Water Supplies - Less than Significant Impact
- Landfill Capacity – Less than Significant Impact
- Comply with Solid Waste Regulations – No Impact

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