Public Review Draft • June 2016

929 Baker Street Residential Project
Initial Study/Mitigated Negative Declaration

Prepared for:
City of Costa Mesa

Prepared by:
Michael Baker International, Inc.

PUBLIC REVIEW DRAFT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

929 Baker Street Residential Project

LEAD AGENCY:

City of Costa Mesa
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Costa Mesa, California 92628
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June 6, 2016

JN 153149

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1.0 INTRODUCTION

The proposed project involves a Design Review (Planning Application PA-15-58) and a Vesting Tentative Tract Map (VTT-17980) to allow for the assemblage and subdivision of a 4.71 acre (205,168 square foot) lot currently located at 929 Baker Street into two-story, 56-unit detached common interest residential units and a 0.11 acre private park. The existing on-site structure (a 64,800 square-foot self-storage building) would be demolished and the proposed development would consist of 56 detached single-family homes with private streets, on-site parking spaces, and landscaping. Following preliminary review of the proposed project, the City of Costa Mesa has determined that it is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study addresses the direct, indirect, and cumulative environmental effects associated with the project, as proposed.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with CEQA (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City of Costa Mesa, acting in the capacity of Lead Agency, is required to undertake the preparation of an Initial Study to determine whether the proposed project would have a significant environmental impact. If the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed project would not have a significant effect on the environment and shall prepare a Negative Declaration (or Mitigated Negative Declaration) for that project. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Section 21080(c), Public Resources Code).

The environmental documentation, which is ultimately approved and/or certified by the City of Costa Mesa in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not a policy document, and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

1.2 PURPOSE

Section 15063 of the *CEQA Guidelines* identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project;
- Identification of the environmental setting;
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- Discussion of ways to mitigate significant effects identified, if any;

- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls; and

- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.

1.3 INCORPORATION BY REFERENCE

The references outlined below were utilized during preparation of this Initial Study. The documents are available for review at the City of Costa Mesa Development Services Department, located at 77 Fair Drive, Costa Mesa, California 92626.

- *City of Costa Mesa 2000 General Plan* (January 22, 2002). The *City of Costa Mesa 2000 General Plan* (General Plan), adopted January 22, 2002, is the primary source of long-range planning and policy direction intended to guide growth and preserve the quality of life within the community. The overall intent of the General Plan is to provide a policy framework that strives to maintain and improve a socially-cohesive, economically-viable, and physically-attractive community. The General Plan contains goals, policies, and plans which are intended to guide land use and development decisions. The General Plan consists of a Land Use Plan Map and the following seven State mandated elements: Land Use Element; Circulation/Transportation Element; Housing Element; Conservation Element; Noise Element; Safety Element; and Open Space and Recreation Element. It also includes three optional elements: Growth Management Element; Community Design Element; and Historic and Cultural Resources Element. On January 21, 2014, the City updated the Housing Element for the 2013 – 2021 planning cycle. The City is also currently updating its General Plan for 2015 – 2035, *City of Costa Mesa 2015-2035 Draft General Plan*.

- *City of Costa Mesa 2000 General Plan Environmental Impact Report* (January 22, 2002). The *City of Costa Mesa 2000 General Plan Environmental Impact Report* (General Plan EIR) was adopted on January 22, 2002. The General Plan EIR analyzed the potential environmental impacts that would result from implementation of the General Plan. The General Plan EIR Table 3-6, *Growth Increases Over Existing Conditions (2000) Associated with 2000 General Plan Implementation (2020)*, identifies new development projected between 2000 and 2020. The General Plan EIR assumes the land use growth of 42,469 dwelling units and 46,683,237 square feet of non-residential land uses, which represents an increase of 1,892 additional dwelling units and 12,643,695 additional square feet of non-residential uses by 2020. The General Plan EIR concluded that impacts in the following areas would be significant and unavoidable; refer to General Plan EIR Section 8.0:

  - Transportation and Circulation (roadway capacity at Gisler Avenue, west of Harbor Boulevard);
  - Noise (long-term mobile sources); and
  - Air Quality (short- and long-term emissions).

- *City of Costa Mesa Municipal Code*. The *Costa Mesa Municipal Code* (Municipal Code) codified through Ordinance No. 16-03, enacted March 1, 2016 (Supplement No. 131, 3-16) consists of regulatory, penal, and administrative ordinances of the City of Costa Mesa.

These include standards intended to regulate land use, development, health and sanitation, water quality, public facilities, and public safety. Title 13 of the Municipal Code, *Planning, Zoning and Development* (Zoning Code), is utilized to implement the goals, objectives, and policies of the General Plan, and promote the public health, safety, general welfare and preserve and enhance the aesthetic quality of the city by providing regulations to ensure that an appropriate mix of land uses occur in an orderly manner.

- *City of Costa Mesa 2015-2035 Draft General Plan* (March 4, 2016). The *City of Costa Mesa 2015-2035 Draft General Plan* (Draft General Plan Update) establishes the long-range planning and policy direction that guides change and preserves the qualities that define the community. The Draft General Plan Update focuses on protecting and enhancing our diverse residential neighborhoods, accommodating an array of businesses that both serve local needs and attract regional and international spending, and continuing to provide cultural, educational, social, and recreational amenities that contribute to the quality of life in the community. The Draft General Plan Update is currently in draft form and has not yet been adopted.

- *City of Costa Mesa 2015-2035 Draft Environmental Impact Report* (March 4, 2016). The *City of Costa Mesa 2015-2035 Draft Environmental Impact Report* (Draft General Plan Update EIR) analyzes the potential environmental impacts that would result from the adoption and implementation of nine elements of the Draft General Plan Update: Land Use, Circulation, Growth Management, Conservation, Noise, Safety, Community Design, Open Space and Recreation, and Historical and Cultural Resources, in addition to subsequent amendments to the Zoning Code, existing specific plans, and urban plans. A Draft General Plan Update EIR was previously prepared and circulated for the General Plan Update project. The Draft General Plan Update EIR concluded that impacts in the following areas would be significant and unavoidable; refer to Draft General Plan Update EIR Section 2.4:

  - Air Quality (inconsistency with regional plans); and
  - Greenhouse Gas Emissions (inconsistency with regional plans).

  A Notice of Preparation (NOP) for the Draft General Plan Update EIR was distributed by certified mail to the State Clearinghouse, responsible agencies, trustee agencies, and others on November 17, 2015. The City of Costa Mesa distributed a Notice of Availability (NOA) in accordance with CEQA Section 150879(a) and circulated the Draft General Plan Update EIR from March 4, 2016 to April 18, 2016. The Draft General Plan Update EIR is currently in draft form and has not yet been adopted.

These documents, incorporated by reference, were utilized throughout this document as the fundamental planning documents governing work on the project site. Background information and policy information, as well as specific rules and regulations pertaining to the City of Costa Mesa, were relied upon throughout this document.

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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SETTING

PROJECT LOCATION

The project site is located within the northeastern portion of the City of Costa Mesa (city), south of Interstate 405 (I-405), northwest of State Route 55 (SR-55) and west of State Route 73 (SR-73), in Orange County, California; refer to Exhibit 2-1, *Regional Vicinity*. Specifically, the 4.71-acre project site is located at 929 Baker Street; refer to Exhibit 2-2, *Site Vicinity*. Regional access to the site is provided by I-405, SR-55, and SR-73.

EXISTING CONDITIONS

The approximate 4.71-acre project site is currently developed with the existing Baker Self Storage facility and an associated surface parking lot; refer to Exhibit 2-2. The existing 64,800 square-foot self-storage building is set back approximately 125 feet from Baker Street and is two stories in height. With the exception of guest parking and the sales office located at the northwestern corner of the site, the remainder of the site is gated (with restricted access to Clientele only). The northern portion of the project site is highly disturbed, vegetated, and fenced (restricting access).

The site is currently accessed via two driveways at the northeastern and northwestern corners of the property along Baker Street. Table 2-1, *Surrounding Land Uses*, describes the surrounding development.

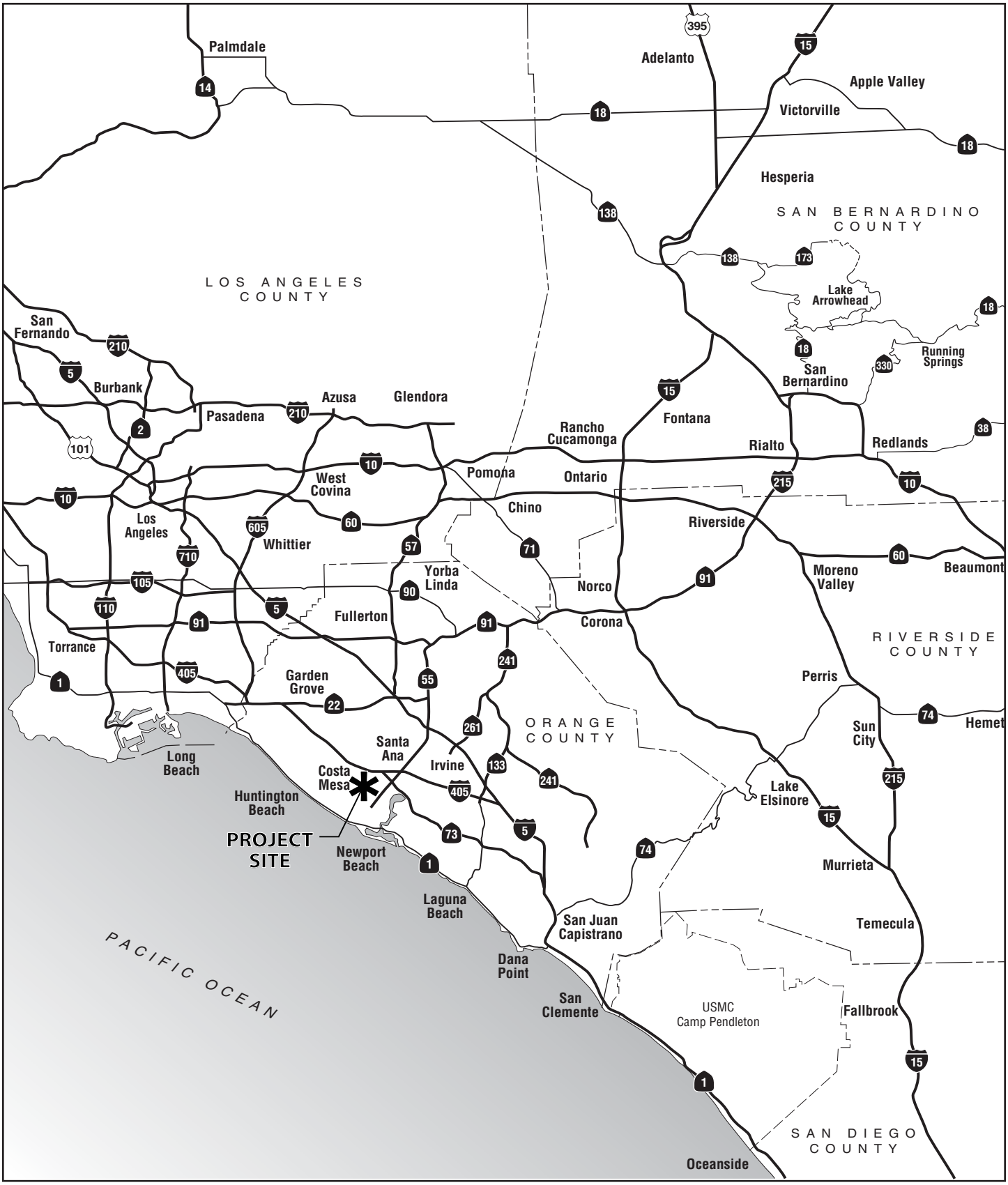
Table 2-1
Surrounding Land Uses

Direction	General Plan Designation	Zoning	Existing Land Use
North	Medium Density Residential (9-12 DU/ Acre)	PDR-MD	Multi-Family Homes
East	Medium Density Residential	I&R	Newport-Mesa Unified School District
South	Public/Institutional	I&R	Sonora Elementary School Paularino Channel
Southwest	High Density Residential (≥12 DU/ Acre)	R3	High Density, Multi-Family Homes
West	Low Density Residential (≤8 DU/ Acre)	R1	Single-Family Homes

Notes: R1 = Single-Family Residential District (A residential district for medium-lot single-family detached dwelling units); PDR-MD = Planned Development Residential-Medium Density; I&R = Institutional and Recreational; R3 = Multiple-Family Residential.

EXISTING ZONING AND GENERAL PLAN

The *City of Costa Mesa General Plan Land Use Map* designates the project site as Residential-Medium Density (9-12 units/acre) and the *Costa Mesa Zoning Map* zones the project site as R2-MD (Multiple-Family Residential District, Medium Density).



NOT TO SCALE

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Regional Vicinity

Exhibit 2-1

Source: Google Earth, 2016.

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929 BAKER STREET RESIDENTIAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Site Vicinity

Exhibit 2-2

2.2 PROPOSED PROJECT

The proposed project involves a Design Review (Planning Application PA-15-58) and a Vesting Tentative Tract Map (VTT-17980) to allow for the assemblage and subdivision of a 4.71 acre (205,168 square foot) lot currently located at 929 Baker Street into two-story, 56-unit detached common interest residential units and a 0.11 acre private park. The existing on-site structure would be demolished and the proposed development would consist of 56 detached single-family homes with private streets, and landscaping; refer to Exhibit 2-3, *Preliminary Site Plan*. The residential lots are variable in dimension by plan type, with a density of 11.89 units per acre.

Three home plans ranging from 1,975 to 2,400 square feet are proposed as follows:

- Residence One – 1,975 square feet, 3 Bedrooms, 2.5 Bathrooms, Great Room, Study, and (optional loft/Bed 4);
- Residence Two – 2,193 square feet, 4 Bedrooms, 3 Bathrooms, Great Room, (optional Study); and
- Residence Three – 2,400 square feet, 4 Bedrooms, 3.5 Bathrooms and Great Room, (Study).

As shown in Exhibit 2-4a, *Plan Layout Residence One Option*, Exhibit 2-4b, *Plan Layout Residence Two Option*, and Exhibit 2-4c, *Plan Layout Residence Three Option*, each floor plan features a two story layout, with flexible living spaces and amenities for varying lifestyles and multigenerational families. The development includes 14 residence one options, 20 residence two options, and 22 residence three options. Two of the three floor plans offer a bedroom and full bathroom on the first floor. All homes include an attached two-car garage and have private rear porch spaces. The architectural styling would feature a modern Spanish style, a plantation style, and a modern farmhouse style. Proposed structures would be up to 26 feet, 11 inches in height.

The proposed project includes a 20-foot setback along the northern boundary, and a 5-foot setback along the east and west boundaries. An Administrative Adjustment is requested by the Applicant along the southern boundary to accommodate a 12-foot setback along Paularino Channel, and between all houses to accommodate a 6-foot building to building setback. The project would also construct a high precision block masonry perimeter wall up to six feet in height with several 6-foot high precision block masonry pilasters.

The proposed subdivision includes one ingress/egress driveway at Baker Street. The primary interior street is designed with a 22- to 25-foot variable width private drive. Private lanes would be designed with 25-foot widths. There would be a total of 229 parking spaces provided on-site. Of these 229 parking spaces, 112 spaces would be garage parking spaces, 112 spaces would be provided at private driveway spaces, and 5 guest spaces would be provided on-site.

As part of the open space, the developer proposes a 0.11 acre park. The proposed on-site park feature would include a play structure, rubberized play surface, a pet waste dispenser, decorative benches, picnic tables, and pedestal-type BBQs.

Source: C&V Consulting, Inc.; dated April 28, 2016.

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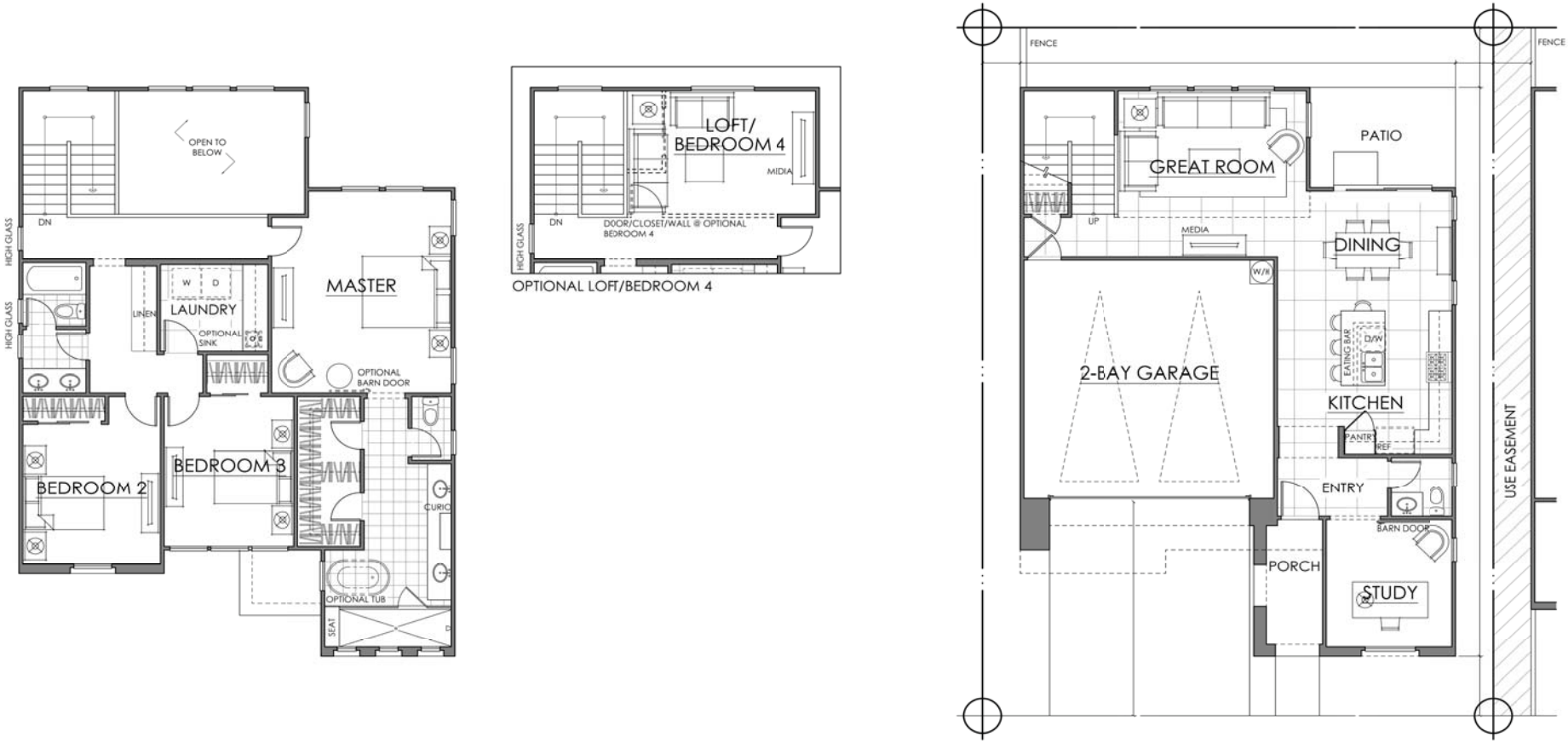
929 BAKER STREET RESIDENTIAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Preliminary Site Plan

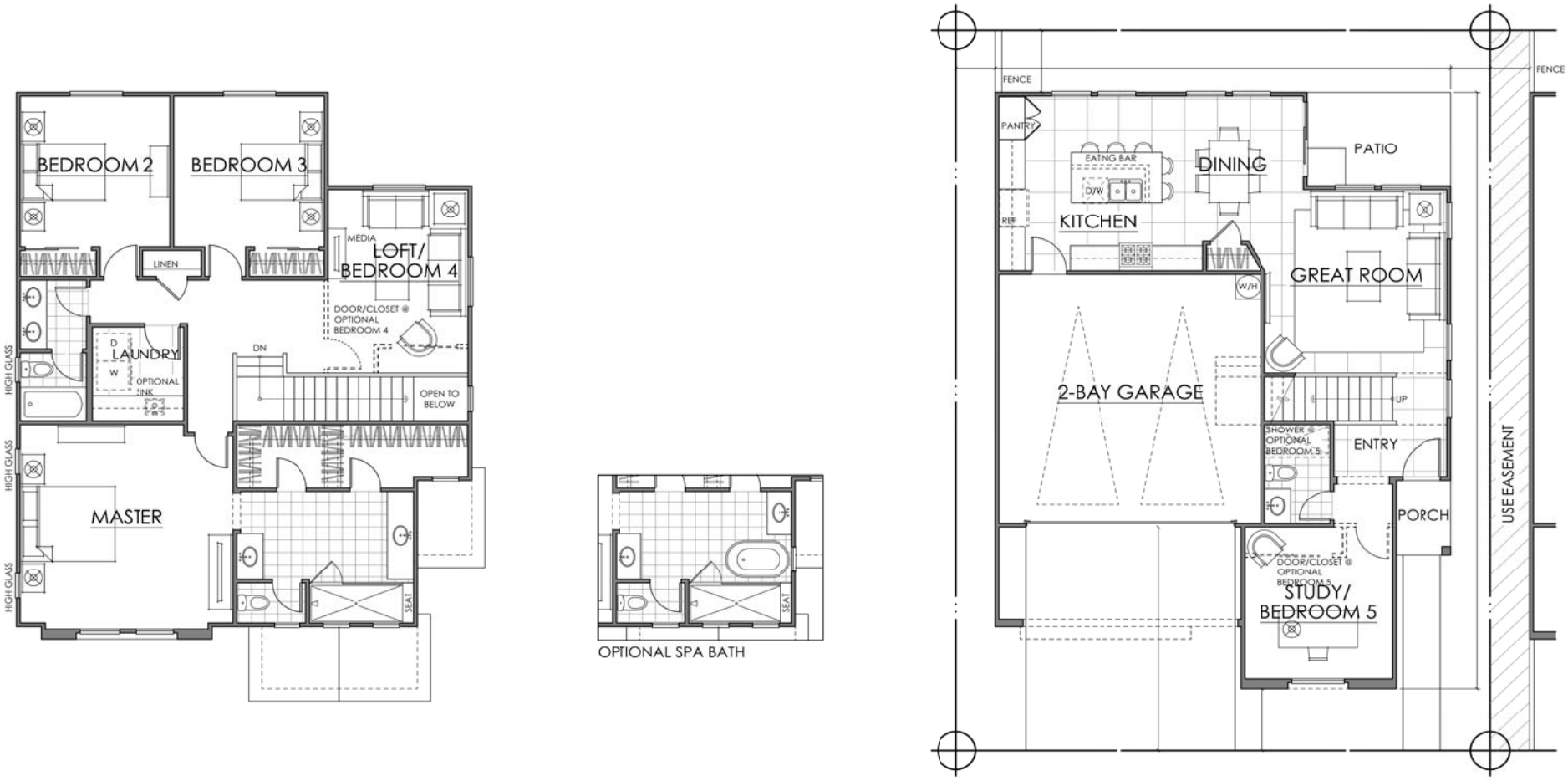
Exhibit 2-3



Source: Woodley Architectural Group, Inc.; dated November 20, 2015.

Plan Layout Residence One Option

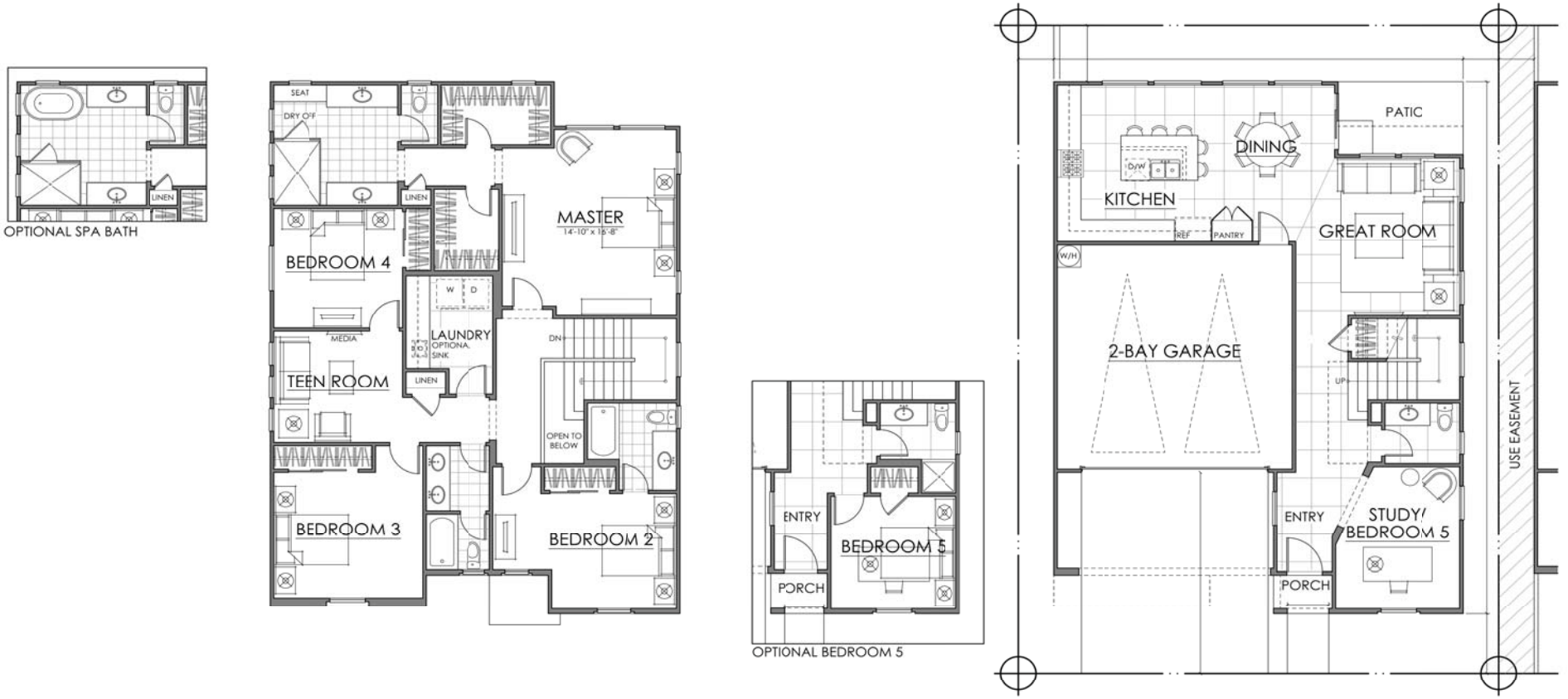
Exhibit 2-4a



Source: Woodley Architectural Group, Inc.; dated November 20, 2015.

Plan Layout Residence Two Option

Exhibit 2-4b



Source: Woodley Architectural Group, Inc.; dated November 20, 2015.

Plan Layout Residence Three Option

Exhibit 2-4c

As part of the project, three existing street trees (Sweet Gum) would be removed. New landscaping features would include street trees (Festival Sweet Gum) along Baker Street at the project's eastern boundary, entry palms (Queen Palm), canopy trees (Tipu Tree) at the on-site park, and interior street trees (Australian Willow, Crape Myrtle, and Southern Magnolia). Shrubs/groundcover and turf would also be provided, as depicted on Exhibit 2-5, *Conceptual Landscape Plan*.

Other project features proposed to support on-site utilities and service systems include five bio-filtration basins along the west side of the primary street, as well as on-site utility pipelines connecting to the existing infrastructure in Baker Street. Proposed utility pipelines include new 8-inch water pipelines that would connect to an existing 6-inch water pipeline in Baker Street and 8-inch water pipeline in Post Road, new 18-inch storm drains that would connect to the proposed bio-filtration basins and then the existing 72-inch storm drain in Baker Street, and a new 8-inch sewer pipeline that would connect to the existing 8-inch sewer pipeline in Post Road. The project would also provide a 15-foot water easement located at the on-site park and would maintain the existing 6-foot overhead utility easement along the western project boundary and 13-foot roadway easement on the eastern project boundary. All other existing on-site easements would be abandoned.

PROJECT PHASING AND CONSTRUCTION

The project is proposed to be constructed in a single phase, with site demolition/grading anticipated to commence in August 2016 and the construction of the homes occurring in January 2017. Proposed demolition, grading, and construction activities are anticipated to last for approximately 24 months. The project proposes grading quantities of 2,014 cubic yards of cut materials and 7,953 cubic yards of fill materials.

SITE PLAN ALTERNATIVE

The project Applicant is considering the development of a Site Plan Alternative in order to provide additional guest parking spaces on-site; refer to Exhibit 2-6, *Site Plan Alternative*. The Site Plan Alternative would result in similar development as the proposed project with the exception of proposed guest parking spaces and reduced acreage of on-site park uses.

The Site Plan Alternative would result in the construction of 237 parking spaces provided on-site (an increase of 8 guest parking spaces compared to the proposed project). Of these 237 parking spaces, 112 spaces would be garage parking spaces, 112 spaces would be provided at private driveway spaces, and 13 guest spaces would be provided on-site.

In order to increase on-site guest parking spaces on-site, the Site Plan Alternative would result in a reduction of park uses on-site (from 0.11 acres proposed by the project, to 0.10 acres). This reduction of pervious surface on-site would also result in a decrease of open space area on-site from 40 percent (proposed by the project) to 39.5 percent. Implementation of the Site Plan Alternative would require a Variance, as this alternative does not meet the City Municipal requirement of 40 percent open space.

All other project features, including grading, proposed units, and infrastructure would remain similar to that described for the proposed project.

Source: Summers/Murphy & Partners Inc.; dated May 5, 2016.

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929 BAKER STREET RESIDENTIAL
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Conceptual Landscape Plan

Exhibit 2-5

Source: C&V Consulting, Inc.; dated May 10, 2016.

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929 BAKER STREET RESIDENTIAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Site Plan Alternative

Exhibit 2-6

2.3 DISCRETIONARY ACTIONS

The City of Costa Mesa is the Lead Agency under CEQA and has discretionary authority over the proposed project. The project would be subject to various city permits and approvals, including, but not limited to:

- Certification of a Final Mitigated Negative Declaration (for both proposed project and Site Plan Alternative);
- Approval/Tentative Tract Map and Comprehensive Plan (for both proposed project and Site Plan Alternative);
- Administrative adjustment for distance between buildings (for both proposed project and Site Plan Alternative);
- Administrative adjustment along channel (for both proposed project and Site Plan Alternative); and
- Variance (for Site Plan Alternative only).

The project would also require administrative approvals from the City for issuance of grading, building, and occupancy permits as well as connection permits from utility providers for both proposed project and Site Plan Alternative.

3.0 INITIAL STUDY CHECKLIST

3.1 BACKGROUND

1.	**Project Title:** 929 Baker Street Residential Project
2.	**Lead Agency Name and Address:** City of Costa Mesa 77 Fair Drive Costa Mesa, California 92628
3.	**Contact Person and Phone Number:** Mr. Mel Lee, AICP Senior Planner 714.754.5245
4.	**Project Location:** The project site is located within the northeastern portion of the City of Costa Mesa, south of Interstate 405, northwest of State Route 55, and west of State Route 73, in Orange County, California. The site is specifically located at 929 Baker Street.
5.	**Project Sponsor's Name and Address:** Mr. Alan Toffoli DeNova Homes 3 Hughes Parkway Irvine, California 92618
6.	**General Plan Designation:** The *City of Costa Mesa General Plan Land Use Map* designates the project site as Residential-Medium Density (9-12 units/acre).
7.	**Zoning:** The project site is zoned R2-MD (Multiple Family Residential District, Medium Density) per the *Costa Mesa Zoning Map*.
8.	**Description of the Project:** Refer to Section 2.2, *Proposed Project*.
9.	**Surrounding Land Uses and Setting:** The project site is surrounded by multi-family residential uses, public/institutional uses, and a water channel. Refer to Section 2.1, *Project Location and Setting*.
10.	**Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement):** Refer to Section 2.3, *Discretionary Actions*.

3.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Potentially Significant Unless Mitigated" as indicated by the checklist on the following pages.

	Aesthetics		Land Use and Planning
	Agriculture and Forest Resources		Mineral Resources
✓	Air Quality	✓	Noise
	Biological Resources		Population and Housing
	Cultural Resources		Public Services
✓	Geology and Soils		Recreation
	Greenhouse Gas Emissions	✓	Transportation/Traffic
✓	Hazards and Hazardous Materials		Utilities and Service Systems
	Hydrology and Water Quality	✓	Mandatory Findings of Significance

3.3 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

I find that the proposed use COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ____

I find that although the proposal could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 4.0 have been added. A MITIGATED NEGATIVE DECLARATION will be prepared. ✓

I find that the proposal MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ____

I find that the proposal MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ____

Signature	City of Costa Mesa
	Agency
Mel Lee, AICP	June 6, 2016
Printed Name	Date

3.4 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended, and used by the City of Costa Mesa in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- *No Impact*. The development will not have any measurable environmental impact on the environment.

- *Less Than Significant Impact*. The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- *Less Than Significant Impact With Mitigation Incorporated*. The development will have the potential to generate impacts, which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- *Potentially Significant Impact*. The development could have impacts, which may be considered significant, and therefore additional analysis is required to identify mitigation measures that could reduce potentially significant impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

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4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project and Site Plan Alternative impacts as identified in the Initial Study.

4.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				✓
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c. Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			✓	

a) *Have a substantial adverse effect on a scenic vista?*

No Impact. The proposed project would not have a substantial adverse effect on a scenic view or vista. According to the General Plan, there are no officially designated scenic views or vistas within Costa Mesa. The project site is located with an urbanized area with no topographical features that create scenic view or vista opportunities. As such, the proposed project would not affect a scenic view or vista. No impacts to scenic vistas would result in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not cause a substantial adverse effect on a scenic vista. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. There are no State scenic highways located near the project site or within the City.[1] Additionally, there are no specially designated trees (e.g., heritage trees), rock outcroppings, or

[1] California Department of Transportation website, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed April 20, 2016.

historic buildings located on the project site. Therefore, project implementation would not damage scenic resources within a State scenic highway. No impact would result.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Less Than Significant Impact.

Short-Term Construction

Construction activities would be completed in a single phase, in multiple construction stages, over approximately 24 months. During this time construction activities would be visible from neighboring residents, motorists, bicyclists, pedestrians, and the Newport Mesa School District property to the east. Impacts in this regard would be temporary in nature and would cease upon completion. Therefore, it is concluded that short-term project construction would not substantially degrade the existing visual character or quality of the site and its surroundings.

Long-Term Operations

The existing visual character of the project site is signified by a developed self-storage facility with impervious surfaces and nominal vegetation. The surrounding area is characterized by developed land comprised of residential, commercial, office, and light industrial uses. While the proposed project would alter the existing visual character of the site by replacing a self-storage facility with a residential development, it would not substantially degrade the visual character of the site or its surroundings. The project would be consistent with the maximum building height (27 feet) allowed by the City of Costa Mesa Municipal Code (Municipal Code). Additionally, the Municipal Code has established development standards that would ensure that the proposed project would be compatible with surrounding uses. Specifically, the proposed project would be articulated through appropriate landscape setbacks, landscape character, roof projections, and building heights, as well as variations in building materials and colors, visually reducing the mass and height of the buildings. It is noted that the proposed distance between certain on-site residential structures would be six feet; however, the Municipal Code requires a minimum of 10 feet between main buildings. Therefore, the project Applicant is requesting an Administrative Adjustment to accommodate a 6-foot building to building setback. Development of the site would be subject to the City's discretionary review process, including review of development plans and discretionary permits, to ensure the project is consistent with General Plan policies as well as the Municipal Code.

The character of the area would be enhanced through the architectural design, including modern Spanish style, plantation style, and modern farmhouse style homes, as well as ornamental

landscaping. Additionally, the project would be separated from the existing residences, office uses (Newport Mesa School District), and Baker Street by a five- to six-foot masonry wall around the entire perimeter of the project site. Street level views from Baker Street would consist of landscape treatments, the proposed perimeter wall, and the project entrance. Landscaping improvements would include the removal of three existing street trees (Sweet Gum) along Baker Street and replacing them with Festival Sweet Gum street trees, entry palms (Queen Palm) along the northern project boundary, and interior street trees (Australian Willow, Crape Myrtle, and Southern Magnolia). As the project would be subject to design review by the City, and would include aesthetic/architectural treatments (various architectural styles and colors, ornamental landscaping, etc.), the existing visual character or quality of the site and its surroundings would not be substantially degraded. Impacts would be less than significant in this regard.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

d) *Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?*

Less Than Significant Impact. There are two primary sources of light: light emanating from building interiors that pass through windows, and light from exterior sources (e.g., street lighting, parking lot lighting, building illumination, security lighting, and landscape lighting). Depending upon the location of the light source and its proximity to adjacent light sensitive uses, light introduction can be a nuisance, affecting adjacent areas and diminishing the view of the clear night sky.

The proposed project is located within a developed area of the City. Currently, nighttime lighting from the existing self-storage facility (i.e., security lighting) is being emitted from the project site. Areas surrounding the project site are urbanized and contain various sources of light and glare as a result of residential, institutional, and commercial uses and associated parking lots. Specifically, light and glare in the project area is generated from the light emanating from building interiors and light from exterior sources (i.e., street lighting and security lighting) associated with the adjacent properties. Light and glare caused by car headlights entering and exiting the project site at the existing driveways along Baker Street are currently being emitted as well.

The proposed project is not anticipated to require nighttime construction. Thus, no nighttime lighting would be required. Upon construction of the proposed project, sources of lighting would be similar to the existing condition. The project would include exterior lighting at the residential structures similar to the existing security lighting, and lighting from vehicle headlights at the proposed entrance along Baker Street would be similar to the ingress/egress under the existing condition. It is noted that the project would include a single entrance to the project site in comparison to the existing two ingress/egress locations at the current self-storage facility. In addition, a five- to six-foot perimeter wall and landscaping throughout the development would reduce the potential from off-site light sources such as automobile headlights. The conversion of

the existing self-storage facility to residential land uses would not add substantial light sources to what currently exists in the project site vicinity.

The types of land uses that are typically sensitive to excess light and glare include residential uses, hospitals, senior housing, and other types of uses where excessive light may disrupt sleep. The light sensitive receptors nearest the project site are the adjoining residential uses to the west. The proposed residential homes would create new lighting sources from new residential building interiors and exterior sources (e.g., building illumination, security lighting, etc.). However, lighting associated with the proposed project is not anticipated to result in substantial impacts to these uses, as nighttime illumination currently exists on-site as a result of the self-storage facility, and the project would result in similar lighting conditions as both the existing and surrounding lighting. Further, the proposed project would be subject to the requirements of the City's Guidelines regarding lighting, including the standards of the Municipal Code and Standard Condition 4.1-1. Standard Condition 4.1-1 requires preparation of a Lighting Plan and Photometric Study to demonstrate that the project's lighting meets minimum security lighting requirements, and reduces lighting/glare to nearby residents. Compliance with the Municipal Code standards and Standard Condition 4.1-1 would ensure that any light spillover impacts on residential uses on the project vicinity are less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same operational lighting, and the Site Plan Alternative would be required to comply with Standard Condition 4.1-1, a less than significant impact would result (similar to the proposed project).

Standard Conditions:

SC 4.1.1 Prior to the issuance of Building Permits, the project Applicant shall submit a Lighting Plan and Photometric Study for the approval of the City's Development Services Department. The Lighting Plan shall demonstrate compliance with the following:

- The mounting height of lights on light standards shall not exceed 18 feet in any location on the project site unless approved by the Development Services Director.
- The intensity and location of lights on buildings shall be subject to the Development Services Director's approval.
- All site lighting fixtures shall be provided with a flat glass lens. Photometric calculations shall indicate the effect of the flat glass lens fixture efficiency.
- Lighting design and layout shall limit spill light to no more than 0.5-foot candle at the property line of the surrounding neighbors, consistent with the level of lighting that is deemed necessary for safety and security purposes on-site.
- Glare shields may be required for select light standards.

Mitigation Measures: No mitigation is required.

4.2 AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In Determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided by the California Air Resources Board. Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 122220(g)), timberland as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d. Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e. Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use?				✓

a) ***Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***

No Impact. The project site has historically been used for agricultural purposes from at least 1938 until the 1960's.[1] However, the site has since been developed with institutional uses until 1986, at which time the project site was converted into a self-storage facility. Further, the project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[2] Implementation of the proposed project would replace the existing self-storage

[1] Bureau Veritas North America, Inc., *Phase I Environmental Site Assessment,* September 8, 2015.
[2] California Department of Conservation, *Farmland Mapping and Monitoring Program, California Important Farmland Finder*, http://maps.conservation.ca.gov/ciff/, accessed on May 2, 2016.

facility with the proposed residential development. Thus, the project would not convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural uses, and no impact would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural uses. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The project site is zoned as R2-MD (Multiple-Family Residential District, Medium Density) per the *Costa Mesa Zoning Map*. According to the General Plan EIR, the existing zoning does not include any agricultural-related zoning designations. The project site is not a part of a Williamson Act contract.[3] Additionally, the land uses surrounding the project area are not zoned for agricultural uses or in a Williamson Act contract. Therefore, project implementation would not conflict with existing zoning for agricultural use, or a Williamson Act contract, and no impact would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not conflict with existing zoning for agricultural use, or a Williamson Act contract. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 122220(g)), timberland as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No Impact. The project site is not occupied by or used for forest land or timberland purposes and is not zoned Timberland Production. Further, project implementation would not result in the rezoning of forest land, timberland, or timberland zoned Timberland Production. Therefore, no impact to forest land or timberland would occur as a result of the proposed project.

[3] Department of Conservation, *Agricultural Preserves 2004 Williamson Act Parcels Orange County, California,* 2004.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not result in the rezoning of forest land, timberland, or timberland zoned Timberland Production. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. The project site is not occupied by or used for forest land. Therefore, no impact to forest land would occur as a result of the proposed project.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not occupy or be used for forest land. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

e) *Involve other changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?*

No Impact. Refer to Response 4.2(a) through 4.2(d). As the project site occurs within a developed area, implementation of the proposed project would not result in the conversion of designated farmland or forest land to non-agricultural/non-forest land use and no impacts would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not result in the conversion of designated farmland or forest land to non-agricultural/non-forest land use. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

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4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		✓		
c. Result 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. Expose sensitive receptors to substantial pollutant concentrations?		✓		
e. Create objectionable odors affecting a substantial number of people?			✓	

a) *Conflict with or obstruct implementation of the applicable Air Quality Management Plan or Congestion Management Plan?*

Less Than Significant Impact. The proposed project is located within the South Coast Air Basin (Basin), which is governed by the South Coast Air Quality Management District (SCAQMD). On December 7, 2012, the SCAQMD Governing Board approved the *2012 Air Quality Management Plan* (2012 AQMP), which outlines its strategies for meeting the National Ambient Air Quality Standards (NAAQS) for fine particulate matter ($PM_{2.5}$) and ozone (O_3). According to the SCAQMD's 2012 AQMP, two main criteria must be addressed.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations?

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in Response 4.3(d), below, localized concentrations of carbon monoxide (CO), nitrogen oxides (NO_X), and fugitive dust (PM_{10} and $PM_{2.5}$) would be less than significant during project operations. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations. Because reactive organic gases (ROGs) are not a criteria pollutant, there is no ambient

standard or localized threshold for ROGs. Due to the role ROG plays in ozone formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

b) *Would the project cause or contribute to new air quality violations?*

As discussed in Response 4.3(b), operations of the proposed project would result in emissions that would be below the SCAQMD operational thresholds. Therefore, the proposed project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The proposed project would result in less than significant impacts with regard to localized concentrations during project operations. As such, the proposed project would not delay the timely attainment of air quality standards or 2012 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and Southern California Association of Government's (SCAG) air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2012 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2012 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

In the case of the 2012 AQMP, three sources of data form the basis for the projections of air pollutant emissions: the *City of Costa Mesa 2000 General Plan* (General Plan), SCAG's *Growth Management* Chapter of the *Regional Comprehensive Plan* (RCP), and SCAG's *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). The RTP/SCS also provides socioeconomic forecast projections of regional population growth. The project site is designated as Medium Density Residential in the General Plan (9-12 units/acre), and is zoned R2-MD (Multiple-Family Residential District, Medium Density) in the City's Zoning Code. The proposed project consists of constructing 56 detached single-family homes on the 4.71 acre site, which would result in a density of 11.89 units/acre. Therefore, the proposed project's density would be consistent with the General Plan, and is considered consistent with the City's Zoning Code. Thus, the proposed project is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the RCP. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City; these are used by SCAG in all phases of implementation and review. Additionally, as the SCAQMD has incorporated these same

projections into the 2012 AQMP, it can be concluded that the proposed project would be consistent with the projections.

b) Would the project implement all feasible air quality mitigation measures?

Compliance with all feasible emission reduction measures identified by the SCAQMD would be required as identified in Response 4.3(b). As such, the proposed project would meet this 2012 AQMP consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth in the AQMP?

As noted above, air pollutant emissions area primarily based on land use and population projections form the General Plan, as well as the SCAG RCP and RTP/SCS. As discussed above, the project is consistent with the City's General Plan and Zoning Code designations. The proposed project is located within a developed portion of the City, and is considered to be an infill development in the vicinity of a mix of residential, commercial, industrial, and institutional uses.

In conclusion, the determination of 2012 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet State and Federal air quality standards. Also, the proposed project would be consistent with the goals and policies of the AQMP for control of fugitive dust. As discussed above, the proposed project would also be consistent with SCAQMD and SCAG's goals and policies and is considered consistent with the 2012 AQMP.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Less Than Significant Impact With Mitigation Incorporated.

Short-Term Emissions

Construction related activities would generate short-term air quality impacts. Construction activities are anticipated to last for approximately 24 months. Grading activities would require approximately 2,014 cubic yards of cut materials and 7,953 cubic yards of fill materials. Construction equipment would include tractors, dozers, graders, water trucks, excavators, backhoes, pavers, rollers, loaders, and trenchers. Exhaust emission factors for typical diesel-powered heavy equipment are based on the California Emissions Estimator Model (CalEEMod) program defaults. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use,

site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. Refer to Appendix 8.1, *Air Quality/Greenhouse Gas Data*, for the CalEEMod modeling outputs and results. Table 4.3-1, *Construction Related Emissions*, presents the anticipated daily short-term construction emissions.

Table 4.3-1
Construction Related Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 1						
Unmitigated Emissions	4.76	53.73	40.04	0.07	10.00	5.89
Mitigated Emissions[2,3]	4.76	53.73	40.04	0.07	5.70	3.72
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
Year 2						
Unmitigated Emissions	13.42	29.18	21.83	0.03	2.27	1.94
Mitigated Emissions[2,3]	13.42	29.18	21.83	0.03	2.20	1.92
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, as recommended by the SCAQMD.
2. As depicted in this table, the mitigation reduction credits for the proposed project are negligible. However, compliance with SCAQMD rules would still be required. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD through Rule 403. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stock piles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. Refer to Appendix 8.1, *Air Quality/Greenhouse Gas Data*, for assumptions used in this analysis.

Fugitive Dust Emissions

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

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} (particulate matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. Fine Particulate Matter ($PM_{2.5}$) is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground

or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and sulfur oxides (SO_X) combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Standard Condition 4.3-1 would require dust control techniques (i.e., daily watering), limitations on construction hours, and adherence to SCAQMD Rules 402 and 403 (which require watering of inactive and perimeter areas, track out requirements, etc.), to reduce PM_{10} and $PM_{2.5}$ concentrations. As depicted in Table 4.3-1, total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction. Therefore, impacts would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 4.3-1, construction equipment and worker vehicle exhaust emissions would be below the established SCAQMD thresholds. Therefore, air quality impacts from equipment and vehicle exhaust emissions would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. As required, all architectural coatings for the proposed structures would comply with SCAQMD Regulation XI, Rule 1113 – *Architectural Coating*.[1] Rule 1113 provides specifications on painting practices as well as regulates the ROG content of paint. In addition to Rule 1113, Mitigation Measure AQ-1 requires the use of high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent and using pre-painted construction materials. Mitigation Measure AQ-1 also limits the ROG/VOC content of architectural coatings (paints) to 50 grams per liter or less. Compliance with Mitigation Measure AQ-1 would ensure that emissions would be at less than significant levels.

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the California Air Resources Board (CARB) in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be

[1] South Coast Air Quality Management District, *Rule 1113, Architectural Coatings*, http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf.

released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact in this regard.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. CalEEMod allows the user to input mitigation measures such as watering the construction area to limit fugitive dust. Mitigation measures that were input into CalEEMod allow for certain reduction credits and result in a decrease of pollutant emissions. Reduction credits are based upon studies developed by CARB, SCAQMD, and other air quality management districts throughout California, and were programmed within CalEEMod. As indicated in Table 4.3-1, impacts would be less than significant for all criteria pollutants during construction. Implementation of standard SCAQMD measures (required by Standard Condition 4.3-1 and Mitigation Measure AQ-1) would further reduce these emissions. Thus, construction related air emissions would be less than significant.

Long-Term Emissions

Mobile Source Emissions

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

According to the *De Nova Homes Baker Street Residential Project Traffic Impact Analysis* (Traffic Impact Analysis*)*, prepared by Transpo Group, dated January 2016 (provided in Appendix 8.6, *Traffic Impact Analysis*), the proposed project would generate an approximate net increase of 366 daily trips. Table 4.3-2, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions. As shown in Table 4.3-2, unmitigated emissions generated by vehicle traffic associated with the proposed project would not exceed established SCAQMD thresholds. Impacts from mobile source air emissions would be less than significant.

Area Source Emissions

Area source emissions would be generated due to an increased demand for natural gas associated with the development of the proposed project. The primary use of natural gas producing area source emissions by the project would be for consumer products, architectural coating, and landscaping. As shown in Table 4.3-2, area source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$. It is noted that the project would be prohibited to include wood burning devices, in compliance with SCAQMD Rule 445 (refer to Standard Condition 4.3-2).

Table 4.3-2
Long-Term Operational Air Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Existing Emissions[2]						
Mobile Emissions	1.72	4.89	21.50	0.06	4.29	1.19
Area Source Emissions	1.70	0.00	0.01	0.00	0.00	0.00
Energy Emissions	0.04	0.38	0.32	0.00	0.03	0.03
Total Existing Emissions[3]	***3.46***	***5.27***	***21.83***	***0.06***	***4.32***	***1.22***
Proposed Emissions[2]						
Mobile Emissions	1.84	4.53	20.31	0.05	4.14	1.14
Area Source Emissions	17.03	0.43	32.81	0.05	4.30	4.30
Energy Emissions	0.05	0.41	0.17	0.00	0.03	0.03
Total Proposed Emissions[3]	***18.92***	***5.37***	***53.29***	***0.1***	***8.47***	***5.47***
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Net Increase Over Existing Emissions[3]	***15.46***	***0.10***	***31.91***	***0.09***	***4.15***	***4.25***
Is Threshold Exceeded? (Significant Impact?)	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Based on CalEEMod modeling results, worst-case seasonal emissions for area and mobile emissions have been modeled.
2. Refer to Appendix 8.1, *Air Quality/Greenhouse Gas Data*, for assumptions used in this analysis.
3. The numbers may be slightly off due to rounding.

Energy Source Emissions

Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. As shown in Table 4.3-2, energy source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$. It is noted that the project would be required to comply with Title 24 of the California Code of Regulations with regard to energy conservation standards, and included double paned glass or window treatments (see Standard Condition 4.3-3).

Site Plan Alternative

As the Site Plan Alternative would result in the same construction and operational air quality emissions as the proposed project, less than significant impacts would result with implementation of the recommended Mitigation Measure AQ-1 and Standard Condition 4.3-1 through Standard Condition 4.3-4 (similar to the proposed project).

Standard Conditions:

SC 4.3-1 All construction contractors shall comply with South Coast Air Quality Management District (SCAQMD) regulations, including Rule 403, Fugitive Dust. All grading (regardless of acreage) shall apply best available control measures for fugitive dust in accordance with Rule 403. To ensure that the project is in full compliance with

applicable SCAQMD dust regulations and that there is no nuisance impact off the site, the contractor would implement each of the following:

- Moisten soil not more than 15 minutes prior to moving soil or conduct whatever watering is necessary to prevent visible dust emissions from exceeding 100 feet in any direction.
- Apply chemical stabilizers to disturbed surface areas (completed grading areas) within five days of completing grading or apply dust suppressants or vegetation sufficient to maintain a stabilized surface.
- Water excavated soil piles hourly or covered with temporary coverings.
- Water exposed surfaces at least twice a day under calm conditions. Water as often as needed on windy days when winds are less than 25 miles per day or during very dry weather in order to maintain a surface crust and prevent the release of visible emissions from the construction site.
- Wash mud-covered tired and under-carriages of trucks leaving construction sites.
- Provide for street sweeping, as needed, on adjacent roadways to remove dirt dropped by construction vehicles or mud, which would otherwise be carried off by trucks departing project sites.
- Securely cover loads with a tight fitting tarp on any truck leaving the construction sites to dispose of debris.

SC 4.3-2 SCAQMD Rule 445 prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or a similarly enclosed, aesthetic or space heating purposes, which has a heat input of less than one million British thermal units per hour.

SC 4.3-3 The project shall comply with Title 24 of the California Code of Regulations established by the energy conservation standards. The project Applicant shall incorporate the following in building plans:

- Double paned glass or window treatment for energy conservation shall be used in all exterior windows;
- Buildings shall be oriented north/south where feasible.

SC 4.3-4 The Applicant shall contact the South Coast Air Quality Management District (SCAQMD) at (800) 288-7664 for potential additional conditions of development or for additional permits required by the SCAQMD.

Mitigation Measures:

AQ-1 The following measures shall be implemented by the contractor to reduce ROG emissions resulting from application of architectural coatings:

- Use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent;
- Use pre-painted construction materials; and
- VOC content of architectural coatings shall not exceed 50 grams per liter.

c) ***Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?***

Less Than Significant Impact With Mitigation Incorporated. With respect to the proposed project's construction-related air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2012 AQMP pursuant to Federal Clean Air Act (FCAA) mandates. As such, the proposed project would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures (see Standard Condition 4.3-1 and Mitigation Measure AQ-1). Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. In addition, the proposed project would comply with adopted 2012 AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted 2012 AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

As discussed previously, the proposed project would not result in long-term air quality impacts, as emissions would not exceed the SCAQMD adopted operational thresholds. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with implementation of the proposed project would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction and operational air quality emissions impacts as the proposed project, less than significant impacts would result with implementation of the recommended Mitigation Measure AQ-1 and Standard Condition 4.3-1 through Standard Condition 4.3-3 (similar to the proposed project).

Standard Conditions: Refer to SC 4.3-1 through SC 4.3-3.

Mitigation Measures: Refer to Mitigation Measures AQ-1.

d) ***Expose sensitive receptors to substantial pollutant concentrations?***

Less Than Significant Impact With Mitigation Incorporated. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The closest existing sensitive receptors include residential uses located approximately 125 feet to the north, 380 feet to the southeast, 90 feet to the south, and adjoining residential uses to the west of the project site. Two schools are also located in the vicinity of the project site, Saint John Baptist School (approximately 345 feet to the west), and Sonora Elementary School (adjoining to the south). In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction and operations impacts (area sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

Localized Significance Thresholds

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for one, two, and five acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. The project is located within Sensitive Receptor Area (SRA) 18, North Coastal Orange County.

Construction

Based on the SCAQMD guidance on applying CalEEMod to LSTs, the project would disturb approximately 4.71 acres of land per day. Therefore, the LST thresholds for two acres were conservatively utilized for the construction LST analysis. As the nearest sensitive uses are adjacent to the project site, the LST value for 25 meters was utilized, as this is the most conservative option the methodology allows. Table 4.3-3, *Localized Significance of Construction Emissions*, shows the localized unmitigated and mitigated construction-related emissions. It is noted that the localized emissions presented in Table 4.3-3 are less than those in Table 4.3-1 because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities). As seen in Table 4.3-3, the unmitigated and mitigated on-site emissions would not exceed the LSTs for SRA 18.

Table 4.3-3
Localized Significance of Construction Emissions

Source	Pollutant (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Year 1				
Total Mitigated On-Site Emissions[1,2]	45.66	35.03	4.60	3.27
Localized Significance Threshold[3]	131	962	7	5
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Year 2				
Total Mitigated On-Site Emissions[3]	26.41	18.13	1.78	1.67
Localized Significance Threshold[3]	131	962	7	5
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. For construction Year 1, the demolition phase emissions are presented as the worst case scenario for NO_x and CO.
2. For construction Year 1, the grading phase emissions are presented as the worst case scenario for PM_{10} and $PM_{2.5}$.
3. For construction Year 2, the building construction phase emissions are presented as the worst case scenario.
4. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately 4.71 acres; therefore the 2-acre threshold was used), the distance to sensitive receptors, and the source receptor area (SRA 18).

Operations

As seen in Table 4.3-4, *Localized Significance of Operational Emissions*, project-related mitigated operational area source emissions would be negligible and would be below the LSTs. Modeled area source emissions include the natural gas burning fireplaces (see Standard Condition 4.3-2) and exclude the use of wood burning fireplaces per SCAQMD Rule 445. Therefore, operational LST impacts would be less than significant in this regard.

Table 4.3-4
Localized Significance of Operational Emissions

Source	Pollutant (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Operational				
Mitigated Area Source Emissions	0.05	4.67	0.09	0.09
Localized Significance Threshold[1]	131	962	2	2
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Notes:
1. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the total acreage for operational (the 2-acre threshold was used), the distance to sensitive receptors, and the source receptor area (SRA 18).

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

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

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. On-road mobile source CO emissions have declined 24 percent between 1989 and 1998, despite a 23 percent rise in motor vehicle miles traveled over the same 10 years. California trends have been consistent with national trends; CO emissions declined 20 percent in California from 1985 through 1997 while vehicle miles traveled increased 18 percent in the 1990s. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the *Federal Attainment Plan for Carbon Monoxide* (CO Plan) for the SCAQMD's 2003 Air Quality Management Plan. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin, and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm 1-hr CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City of Costa Mesa near the project site due to the low volume of traffic (an approximate net increase of 366 daily trips) that would occur as a result of project implementation. Therefore, impacts would be less than significant in this regard.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction and operational air quality emissions impacts as the proposed project, less than significant impacts would result with implementation of the recommended Mitigation Measure AQ-1 and Standard Condition 4.3-1 through Standard Condition 4.3-3 (similar to the proposed project).

Standard Conditions: Refer to SC 4.3-1 through SC 4.3-3.

Mitigation Measures: Refer to Mitigation Measure AQ-1.

e) ***Create objectionable odors affecting a substantial number of people?***

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

Construction activity associated with the project may generate detectable odors from heavy-duty equipment exhaust. Construction related odors would be short-term in nature and cease upon project completion. Any impacts to existing adjacent land uses would be short-term, as previously noted, and are considered less than significant given the project size.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not create objectionable odors affecting a substantial number of people. A less than significant impact would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

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4.4 BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			✓	

a) ***Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

No Impact. The project site is fully developed and located within an urbanized area. The project involves the demolition of the existing self-storage facility and the construction of a proposed residential development. No endangered, rare, threatened, or special status plant species (or associated habitats) or wildlife species designated by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), or California Native Plant Society (CNPS) are known to occur on-site.

Red imported fire ants are both a nuisance and threat to area agriculture and wildlife. In the event they are present on the site, they could spread to other areas and become a concern. Any potential threat from these species would be addressed through Standard Condition 4.4-1.

Project implementation would not result in a substantial adverse effect, either directly or through habitat modifications, on any sensitive species. No impact would result in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species. In addition, the Site Plan Alternative would be required to comply with Standard Condition 4.4-1. No impacts would result in this regard.

Standard Conditions:

SC 4.4-1 The Applicant shall comply with the requirements of the California Department of Food and Agriculture (CDFA) to determine if red imported fire ants exist on the project site prior to any soil movement or excavation. Call CDFA at (714) 708-1910 for information.

Mitigation Measures: No mitigation measures are required.

b) ***Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?***

No Impact. There is no riparian habitat or other sensitive natural communities present on the project site. Project implementation would not significantly impact any riparian habitat or other sensitive natural community.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) ***Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, costal, etc.) through direct removal, filling, hydrological interruption, or other means?***

No Impact. There are no federally protected wetlands present on the project site. Project implementation would not impact federally protected wetlands through direct removal, filling, hydrological interruption, or other means.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, costal, etc.) through direct removal, filling, hydrological interruption, or other means. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

d) ***Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

No Impact. No identified wildlife corridors or native wildlife nurseries occur within the boundaries of the project site. As noted above, the project site is fully urbanized and occupied by a self-storage facility. In addition, the project site is surrounded by developed uses to the north, east, and west, and the Paularino Channel is located to the south; therefore, the site does not function as a wildlife movement corridor. Project implementation would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

e) ***Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?***

No Impact. The project site contains nominal ornamental landscaping, but does not contain any protected biological resources or tree species that are considered sensitive. Project implementation would include the removal of three existing street trees (Sweet Gum); however, the proposed landscaping would include replacing these street trees (with Festival Sweet Gum), entry Palms (Queen Palm), canopy trees (Tipu Tree) at the on-site park, and interior street trees (Australian Willow, Crape Myrtle, and Southern Magnolia); refer to Exhibit 2-5, *Conceptual Landscape Plan*. Further, the City does not have any tree-protection ordinances for trees on private property. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

f) ***Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

Less Than Significant Impact. The City of Costa Mesa is located within the jurisdiction of the *County of Orange Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan* (Orange County Central and Coastal NCCP/HCP), dated July 17, 1996.[1] However, the project site is not designated as a Reserve, Conservation Easement, Non-Reserve Open Space, or Special Linkage.[2] Therefore, the proposed project would not conflict with the provisions of the Orange County Central and Coastal NCCP/HCP. No impacts would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. A less than significant impact would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[1] County of Orange, *Natural Community Conservation Plan & Habitat Conservation Plan, County of Orange Central & Coastal Subregion, Parts I & II: NCCP/HCP*, http://occonservation.wpengine.com/wp-content/uploads/2015/04/NCCP-Parts-I-II-Plan.pdf, accessed May 9, 2016.

[2] Data Basin, *Orange County Central Coastal NCCP/HCP*, https://databasin.org/datasets/ed49d8389c2349f2a0c9e56cfc7c48ef, accessed May 9, 2016.

4.5 CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?				✓
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?			✓	
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	
d. Disturb any human remains, including those interred outside of formal cemeteries?			✓	

a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

No Impact. The proposed project would not result in a substantial adverse change in the significance of a historical resource. The proposed project would demolish the existing structure and construct the proposed 56 detached single-family homes. The existing on-site structure is not associated with significant events, important persons, or distinctive characteristics of a type, period, or method of construction; representing the work of an important creative individual; and does not possess high artistic values. Thus, project implementation would not cause a substantial adverse change in the significance of a historical resource and no impacts would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?*

Less Than Significant Impact. The project site exists within a highly developed area and has been completely disturbed as a result of the development of the existing self-storage facility. Although it is not expected that archaeological resources would be encountered during construction due to previous disturbance at the site, the project would require some excavation. As such, Standard Condition 4.5-1 is required in the unlikely event that such resources are discovered during the grading and excavation process and trenching activities. Upon

implementation of Standard Condition 4.5-1, impacts would be reduced to less than significant levels.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts as the proposed project, less than significant impacts would result (similar to the proposed project) with implementation of Standard Condition 4.5-1.

Standard Conditions:

SC 4.5-1 In the event that archaeological resources are encountered during grading and construction, all construction activities shall be temporarily halted or redirected to permit the sampling, identification, and evaluation of archaeological materials as determined by the City, who shall establish, in cooperation with the project Applicant and a certified archaeologist, the appropriate procedures for exploration and/or salvage of the artifacts.

Mitigation Measures: No mitigation measures are required.

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less Than Significant Impact. As noted above, the site exists within a highly developed area and the project site has been completely disturbed as a result of the existing on-site self-storage facility. Although it is not expected that paleontological resources would be encountered during construction, the project would require excavation and trenching that could unearth undocumented subsurface paleontological resources. As such, Standard Condition 4.5-2 is required in the unlikely event that such resources are discovered during the grading and excavation process. Upon implementation of Standard Condition 4.5-2, impacts would be reduced to less than significant levels.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts as the proposed project, less than significant impacts would result (similar to the proposed project) with implementation of Standard Condition 4.5-2.

Standard Conditions:

SC 4.5-2 In the event that paleontological resources are encountered during grading and construction operations, all construction activities shall be temporarily halted or redirected to permit a qualified paleontologist to assess the find for significance and, if necessary, develop a paleontological resources impact mitigation plan (PRIMP) for the review and approval by the City prior to resuming excavation activities.

Mitigation Measures: No mitigation measures are required.

d) ***Disturb any human remains, including those interred outside of formal cemeteries?***

Less Than Significant Impact. Given the fully developed condition of the site, the potential for project implementation to disturb any human remains is remote. Additionally, no conditions exist that suggest human remains are likely to be found on the project site. Human remains, including those interred outside of formal cemeteries, are not anticipated to be encountered during earth removal or disturbance activities. However, if human remains are found, those remains would be required to conduct proper treatment, in accordance with applicable laws (see Standard Condition 4.5-3 below). State of California Public Resources Health and Safety Code Sections 7050.5 to 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission (NAHC) and consultation with the individual identified by the NAHC to be the "most likely descendant." If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlay adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains (refer to Standard Condition 4.5-3). Following compliance with existing State regulations, which detail the appropriate actions necessary in the event human remains are encountered, impacts in this regard would be reduced to less than significant levels.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts as the proposed project, less than significant impacts would result (similar to the proposed project) with compliance with State laws and implementation of Standard Condition 4.5-3.

Standard Conditions:

SC 4.5-3 If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Mitigation Measures: No mitigation measures are required.

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4.6 GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
2) Strong seismic ground shaking?		✓		
3) Seismic-related ground failure, including liquefaction?		✓		
4) Landslides?				✓
b. Result in substantial soil erosion or the loss of topsoil?			✓	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		✓		
d. Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2001), creating substantial risks to life or property?		✓		
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?				✓

This section is based upon the *Preliminary Subsurface Geotechnical Investigation for the Proposed Residential Development, 929 Baker Street, City of Costa Mesa, California* (Preliminary Geotechnical Evaluation) prepared by Alta California Geotechnical, Inc. (Alta), dated September 1, 2015; refer to Appendix 8.2, *Preliminary Geotechnical Evaluation*.

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

1) ***Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

No Impact. Southern California, including the project area, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have

experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone.

According to the Preliminary Geotechnical Evaluation, the project site is not located within an Alquist-Priolo Earthquake Fault Zone and no faults were identified on the site by Alta during their site evaluation. As such, the possibility of damage due to ground rupture is considered low, as no active faults are known to cross the site. No impacts would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

2) Strong seismic ground shaking?

Less Than Significant Impact With Mitigation Incorporated. Southern California has numerous active seismic faults subjecting residents to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for residents and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires.

As stated above in Response 4.6(a), no faults (active, potentially active, or inactive) are known to exist in the site vicinity. However, secondary effects of seismic shaking resulting from large earthquakes on the major faults in the Southern California region may affect the project site. Secondary effects include ground lurching and shallow ground rupture, soil liquefaction, and dynamic settlement. The secondary effects of seismic shaking are a possibility throughout the Southern California region and are dependent on the distance between the site and causative fault and the onsite geology. According to the Preliminary Geotechnical Evaluation, the closest major active faults (within approximately 17 miles) that could produce these secondary effects include the San Joaquin, Newport-Inglewood, Puentes Hills, and the Elsinore Faults among others.

The main seismic hazard that may affect the site is from ground shaking from one of the active regional faults. The project site would likely experience strong seismic ground shaking during its design life. Given the proximity of major faults in the Southern California region to the project site, the proposed project could be subjected to seismic shaking, as are all habitable structures within the majority of Southern California. All building construction associated with the project would be subject to the City's existing construction ordinances and the California Building Code (CBC) in order to minimize hazards during a seismic event. The CBC includes standards related to soils and foundations, structural design, building materials, and structural testing and inspections.

Adherence to these building requirements and the recommendations within the Preliminary Geotechnical Evaluation (Standard Condition 4.6-14 and Mitigation Measure GEO-1) would minimize risks related to seismic shaking to a less than significant level.

Site Plan Alternative

As the Site Plan Alternative would be located at the same site as the proposed project, strong seismic ground shaking could result on-site under the Site Plan Alternative. However, the Site Plan Alternative would be required to comply with the City's existing construction ordinances and the CBC (refer to Standard Condition 4.3-1), and the recommendations of the Preliminary Geotechnical Evaluation (refer to Mitigation Measure GEO-1). As such, less than significant impacts would result (similar to the proposed project).

Standard Conditions:

SC 4.6-1 The Applicant shall comply with the requirements of the 2013 California Building Code, 2013 California Residential Code, 2013 California Electrical Code, 2013 California Mechanical Code, 2013 California Plumbing Code 2013 California Green Building Standards Code, and the 2013 California Energy Code (or the applicable adopted California Building Code, California Residential Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Green Building Standards, California Energy Code at the time of plan submittal or permit issuance), and California Code of Regulations also known as the California Building Standards Code, as amended by the City of Costa Mesa. Areas of alteration and additions shall comply with 2013 California Green Building Standards Code Sections 5.303.2 and 5.303.2.

Mitigation Measures:

GEO-1 Prior to issuance of a building permit, the Building Official shall ensure that final engineering plans meet the design parameters for seismic safety identified in the recommendations of the Preliminary Geotechnical Evaluation (Alta California Geotechnical, Inc., *Preliminary Subsurface Geotechnical Investigation for the Proposed Residential Development, 929 Baker Street, City of Costa Mesa, California,* dated September 1, 2015) shall be stipulated in the construction contracts, grading plans, and specifications. All grading activities shall be conducted under the observation and testing of the project geotechnical consultant in accordance with the recommendations of the Preliminary Geotechnical Evaluation and the City of Costa Mesa criteria.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact With Mitigation Incorporated. Seismic agitation of relatively loose saturated sands, silty sands, and some silts can result in a buildup of pore pressure. If the pore pressure exceeds the overburden stresses, a temporary quick condition known as liquefaction can occur. Liquefaction effects can manifest in several ways including: 1) loss of bearing; 2) lateral spread; 3) dynamic settlement; and 4) flow failure. Lateral spreading has typically been the most damaging mode of failure.

In general, the more recent that a sediment has been deposited, the more likely it is susceptible to liquefaction. Other factors that must be considered are: groundwater, confining stresses, relative density, and the intensity and duration of seismically-induced ground shaking. According to the Preliminary Geotechnical Evaluation, groundwater was not encountered during the subsurface investigation to a depth of 31 feet. Historic high groundwater is at a depth of 30 feet below existing grade. Based on the density and fine-grained nature of the very old marine deposit, the potential for liquefaction at the project site is considered to be low. In addition, as noted in Response 4.6(a)(2), the CBC includes requirements for soils and foundations, structural design, building materials, and structural testing and inspections. These requirements minimize the potential for hazards related to liquefiable soils. Standard Condition 4.6-1 and Mitigation Measure GEO-1 require the project to comply with the recommendations within the Preliminary Geotechnical Evaluation and CBC. As such, a less than significant impact would occur in this regard.

Site Plan Alternative

As the Site Plan Alternative would be located at the same site as the proposed project, the potential for seismic-related ground failure, including liquefaction would be considered low. In addition, compliance with Standard Condition 4.6-1 and Mitigation Measure GEO-1 would minimize impacts related to seismic-related ground failure, including liquefaction, to a less than significant level (similar to the proposed project).

Standard Conditions: Refer to SC 4.6-1.

Mitigation Measures: Refer to Mitigation Measure GEO-1.

4) Landslides?

No Impact. The project site and surrounding topography is generally flat, making the possibility for landslides extremely remote. Consequently, there is no potential for landslides to occur on or near the proposed project site as a result of the proposed project. Therefore, there would be no impact associated with the exposure of people or structures to potential substantial adverse effects involving landslides.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Result in substantial soil erosion or the loss of topsoil?*

Less Than Significant Impact. The primary concern in regards to soil erosion or loss of topsoil would be during the construction phase of the project. Grading and earthwork activities associated with project construction activities would expose soils to potential short-term erosion by wind and water. All demolition and construction activities within the City would be subject to

compliance with the CBC. In addition, construction of the proposed project would be required to comply with water quality measures included in Section 8-32, *Water Quality*, of the Municipal Code, and requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities; refer to Response 4.9(a). Section 8-32 of the Municipal Code includes conditions and requirements related to the reduction or elimination of storm water runoff pollutants. The NPDES Storm Water General Construction Permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP), which would identify specific erosion and sediment control Best Management Practices (BMPs) that would be implemented to protect storm water runoff during construction activities.

Long-term operational impacts related to soil erosion or loss of topsoil would be required to comply with the NPDES requirements (including finalization of the Water Quality Management Plan [WQMP] for the project), Drainage Area Master Plan (DAMP), and City water pollution regulations, refer to Response 4.9(a), and Standard Condition 4.9-1. Compliance with the CBC, NPDES, DAMP, and City requirements would minimize effects from erosion and ensure consistency with the Regional Water Quality Control Board (RWQCB) requirements. Following compliance with the CBC, NPDES, DAMP, and City requirements (refer to Standard Condition 4.9-1), project implementation would result in a less than significant impact regarding soil erosion.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result (similar to the proposed project) with compliance with the CBC, NPDES, DAMP, and City requirements (refer to Standard Condition 4.9-1).

Standard Conditions: Refer to SC 4.9-1.

Mitigation Measures: No mitigation measures are required.

c) ***Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

Less Than Significant Impact With Mitigation Incorporated. The proposed project site is located within a seismically-active area. As stated within Response 4.6(a)(3), impacts related to liquefaction would be mitigated to a less than significant level. Further, as demonstrated in Response 4.6(a)(4), the project site would not be subject to earthquake-induced landslides.

Subsidence is a general lowering of the ground surface over a large area. According to the *City of Costa Mesa Draft Environmental Impact Report for the 2015-2035 General Plan* (Draft General Plan Update EIR), the City is not likely to be subject to subsidence associated with development due to the lack of clay within the soil, although localized subsidence could occur depending on soil specifics such as variation in grain size. However, due to the density and fine-grained nature of the very old marine deposit at the project site, the potential for subsidence is considered to be low.

According to the Preliminary Geotechnical Evaluation, the artificial and upper portions of the very old marine deposits at the project site are considered compressible and unsuitable to support the proposed residential structures. Therefore, the Preliminary Geotechnical Evaluation

recommends to remove and re-compact the upper five-to-six feet of existing soils on the building pads. Removal and re-compaction of the upper five-to-six feet of existing soils, and compliance with the foundations recommendations in the Preliminary Geotechnical Evaluation would reduce impacts from unstable soils to a less than significant impact. Mitigation Measure GEO-1 requires the project to be designed and constructed with all the recommendations included in the Preliminary Geotechnical Evaluation. Compliance with Mitigation Measure GEO-1, the provisions of the CBC, and all other applicable building codes (see Standard Condition 4.6-1) would result in a less than significant impact with regard to landslide, lateral spreading, subsidence, liquefaction or collapse.

Site Plan Alternative

As the Site Plan Alternative would result in similar construction impacts and operations as the proposed project, the project could be located on a geologic unit or soil that is unstable. However, the Site Plan Alternative would be required to comply with all applicable building codes (Standard Condition 4.6-1), and implement the recommendations of the Preliminary Geotechnical Evaluation (Mitigation Measure GEO-1). Compliance with Standard Condition 4.6-1 and Mitigation Measure GEO-1 would result in a less than significant impact with regard to unstable soils, or soils that would become unstable as a result of landslide, lateral spreading, subsidence, liquefaction or collapse under the Site Plan Alternative.

Standard Conditions: Refer to SC 4.6-1.

Mitigation Measures: Refer to Mitigation Measure GEO-1.

d) ***Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?***

Less Than Significant Impact With Mitigation Incorporated. Expansive soils are defined as soils possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). Expansion index testing for the on-site soils was conducted as part of the Preliminary Geotechnical Evaluation. Based on the findings, the project site soils are anticipated to have high expansion potential. However, this must be confirmed at the completion of grading. Mitigation Measure GEO-1 requires the project to implement all recommendations included in the Preliminary Geotechnical Evaluation, and Standard Condition 4.6-1 and 4.6-2 require compliance with all CBC regulations, as well as submitting a soils report to the City to ensure foundations and site improvements, such as concrete flatwork, and minimize the impacts of expansive soils. Impacts would be considered less than significant upon implementation of Mitigation Measure GEO-1, and compliance with Standard Condition 4.6-1 and 4.6-2.

Site Plan Alternative

As the Site Plan Alternative is located at the same site as the proposed project, the project site soils are anticipated to have high expansion potential. However, the Site Plan Alternative would be required to comply with Mitigation Measure GEO-1 (requires implementation of all recommendations included in the Preliminary Geotechnical Evaluation), Standard Condition 4.6-1 (requires compliance with all applicable building codes), and 4.6-2 (requires the project Applicant to submit a soils report to the City to ensure foundations and site improvements, such as concrete flatwork, and minimize the impacts of expansive soils). Impacts would be considered

less than significant upon implementation of Mitigation Measure GEO-1, and compliance with Standard Condition 4.6-1 and 4.6-2.

Standard Conditions: Refer to SC 4.6-1 as well as SC 4.6-2 below.

SC 4.6-2 The Applicant shall submit a soils report for this project detailing the expansion potential of on-site soils, and recommendations to minimize any impacts from these soils. The Soils Report recommendations shall be blueprinted on both the architectural and grading plans. For existing soil or where fill are proposed, the Soils Report shall address how the existing soils or the new fill will be maintained to avoid future expansion of soils.

Mitigation Measures: Refer to Mitigation Measure GEO-1.

e) ***Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?***

No Impact. The project would not involve the use of septic tanks or alternative wastewater disposal systems, and no impacts would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not involve the use of septic tanks or alternative wastewater disposal systems, and no impacts would occur in this regard. No impacts would result in this regard.

Standard Conditions: Refer to SC 4.6-1.

Mitigation Measures: No mitigation measures are required.

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4.7 GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 regulations adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

GLOBAL CLIMATE CHANGE

California is a substantial contributor of global greenhouse gases (GHGs), emitting over 400 million tons of carbon dioxide (CO_2) per year.[1] Climate studies indicate that California is likely to see an increase of three to four degrees Fahrenheit over the next century. Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, CH_4, and nitrous oxide (N_2O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 to 300 parts per million. For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 to 379 parts per million in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.

REGULATIONS AND SIGNIFICANCE CRITERIA

The Intergovernmental Panel on Climate Change (IPCC) developed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 parts per million CO_2 equivalent[2] (CO_2eq) concentration is required to keep global mean warming below two degrees Celsius, which in turn is assumed to be necessary to avoid significant levels of climate change.

[1] California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 2000 to 2013,* http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-13_20150831.pdf, accessed April 28, 2016.

[2] Carbon Dioxide Equivalent – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

Executive Order S-3-05 was issued in June 2005, which established the following GHG emission reduction targets:

- 2010: Reduce GHG emissions to 2000 levels.
- 2020: Reduce GHG emissions to 1990 levels.
- 2050: Reduce GHG emissions to 80 percent below 1990 levels.

Additionally, issued in April 2015, Executive Order B-30-15 requires statewide GHG emissions to be reduced 40 percent below 1990 levels by 2030. Assembly Bill (AB) 32 Statutes of 2006, Health and Safety Code section 38500 et seq. requires that CARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. CARB has approved a 2020 emissions limit of 427 million metric tons of CO_2 equivalent ($MTCO_2eq$).[3]

Due to the nature of global climate change, it is not anticipated that any single development project would have a substantial effect on global climate change. In actuality, GHG emissions from the proposed project would combine with emissions emitted across California, the United States, and the world to cumulatively contribute to global climate change.

In June 2008, the California Governor's Office of Planning and Research (OPR) published a Technical Advisory, which provides informal guidance for public agencies as they address the issue of climate change in CEQA documents.[4] This is assessed by determining whether the proposed project is consistent with or obstructs the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan which includes nine Early Action Measures (qualitative approach). The Attorney General's Mitigation Measures identify areas were GHG emissions reductions can be achieved in order to achieve the goals of Assembly Bill 32. As set forth in the OPR Technical Advisory and in the proposed amendments to the *CEQA Guidelines* Section 15064.4, this analysis examines whether the project's GHG emissions are significant based on a qualitative and performance based standard (Proposed *CEQA Guidelines* Section 15064.4(a)(1) and (2)).

South Coast Air Quality Management District Thresholds

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

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

[4] Governor's Office of Planning and Research, *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*, 2008.

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

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

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

SCAQMD staff also presented updates for compliance options for Tier 4 of the significance thresholds. The first option would be a reduction of 23.9 percent in GHG emissions over the base case. This percentage reduction represents the land use sector portion of the CARB's *Climate Change Scoping Plan's* overall reduction of 28 percent. This target would be updated as the AB 32 *Climate Change Scoping Plan* is revised. The base case scenario for this reduction still needs to be defined. Residual emissions would need to be less than 25,000 $MTCO_2eq/yr$ to comply with the option. Staff proposed efficiency targets for the third option of 4.6 $MTCO_2eq/yr$ per service population (population plus employment) for project level analysis and 6.6 $MTCO_2eq/yr$ for plan level analyses. For project level analyses, residual emissions would need to be less than 25,000 $MTCO_2eq/yr$ to comply with this option.

At the most recent meeting of the SCAQMD GHG working group, SCAQMD staff recommended extending the 10,000 $MTCO_2eq/yr$ industrial project threshold for use by all lead agencies. The two options for land-use thresholds were reiterated with a recommendation that lead agencies use the second, 3,000 $MTCO_2eq/yr$ threshold for all non-industrial development projects. Staff indicated that they would not be recommending a specific approach to address the first option of Tier 4, Percent Emissions Reduction Target. If lead agencies enquire about using this approach staff will reference the approach recommended by the San Joaquin Valley Air Pollution Control District and describe the challenges to using this approach. For the third option of Tier 4, SCAQMD staff re-calculated the recommended Tier 4 efficiency targets for project level analyses to 4.8 $MTCO_2eq/yr$ in 2020 and 3.0 $MTCO_2eq/yr$ in 2035. The recommended plan level analysis efficiency target remains 6.6 $MTCO_2eq/yr$ for 2020, but was lowered to 4.1 $MTCO_2eq/yr$ for 2035. SCAQMD staff also stated that they are no longer proposing to include a 25,000 $MTCO_2eq/yr$

maximum emissions requirement for compliance with Tier 4. Staff indicated that they hoped to bring the proposed GHG significance thresholds to the board for their December 2010 meeting; however, this did not occur.

For the proposed project, the 3,000 $MTCO_2eq/yr$ non-industrial screening threshold is used as the significance threshold in addition to the qualitative thresholds of significance set forth below from Section VII of *CEQA Guidelines* Appendix G.

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less Than Significant Impact. The proposed project would result in direct and indirect emissions of CO_2, CH_4, and N_2O, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct proposed project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Operational GHG estimations are based on energy emissions from natural gas usage and automobile emissions. The California Emissions Estimator Model (CalEEMod) relies upon trip data within the *De Nova Homes Baker Street Residential Project Traffic Impact Analysis* (Traffic Impact Analysis*)*, prepared by Transpo Group, dated January 2016 (provided in Appendix 8.6, *Traffic Impact Analysis*)*,* and project-specific land use data to calculate emissions. The proposed project includes the development of 56 single-family residential units, and would result in a net increase of 366 daily trips. Table 4.7-1, *Estimated Greenhouse Gas Emissions*, presents the estimated CO_2, CH_4, and N_2O emissions of the proposed project. The CalEEMod outputs are contained within the Appendix 8.1, *Air Quality/Greenhouse Gas Data*.

Direct Proposed Project-Related Sources of Greenhouse Gases

Construction Emissions. Construction GHG emissions are typically summed and amortized over the lifetime of a project (assumed to be 30 years), then added to the operational emissions.[5] As seen in Table 4.7-1, the proposed project would result in 10.16 $MTCO_2eq/yr$ (amortized over 30 years).

Area Source. Area source emissions were calculated using CalEEMod and project-specific land use data. As noted in Table 4.7-1, the proposed project would result in an approximate net increase of 13.05 $MTCO_2eq/yr$ of area sources GHG emissions.

Mobile Source. CalEEMod relies upon trip data within the Traffic Impact Analysis and project specific land use data to calculate mobile source emissions. The proposed project would directly result in an approximate net increase of 504.17 $MTCO_2eq/yr$ of mobile source-generated GHG emissions; refer to Table 4.7-1.

[5] The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District GHG CEQA Significance Stakeholder Working Group, *Minutes for the GHG CEQA Significance Working Group #13*, *Wednesday, August 26, 2009*, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf?sfvrsn=2, accessed April 28, 2016.

Indirect Proposed Project-Related Sources of Greenhouse Gases

Energy Consumption. Energy consumption emissions were calculated using CalEEMod and project-specific land use data. Electricity would be provided to the project site via Southern California Edison. The proposed project would indirectly result in an approximate net increase of 181.39 $MTCO_2eq/yr$ due to energy consumption; refer to Table 4.7-1.

Water Demand. The proposed project's operations would result in a demand of approximately 5.08 million gallons of water per year. Emissions from indirect energy impacts due to water supply would result in an approximate net increase of 21.27 $MTCO_2eq/yr$; refer to Table 4.7-1.

Table 4.7-1
Estimated Greenhouse Gas Emissions

Source	CO_2	CH_4		N_2O		Total $MTCO_2eq/yr$[3]
	MT/yr[1]	MT/yr[1]	$MTCO_2eq/yr$[2]	MT/yr[1]	$MTCO_2eq/yr$[2]	
Existing Emissions[3]						
Area Source	0.00	0.00	0.00	0.00	0.00	0.00
Mobile Source	214.55	0.01	0.25	0.00	0.00	214.81
Energy	0.00	0.00	0.00	0.00	0.00	0.00
Water Demand	0.00	0.00	0.00	0.00	0.00	0.00
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Total Existing Emissions	**214.55**	**0.01**	**0.25**	**0.00**	**0.00**	**214.81**
Proposed Emissions[3]						
Construction (amortized over 30 years)	10.16	0.00	0.00	0.00	0.00	10.16
Area Source	13.05	0.00	0.00	0.00	0.00	13.05
Mobile Source	718.20	0.03	0.75	0.00	0.00	718.98
Energy	181.13	0.01	0.25	0.00	0.00	181.39
Water Demand	18.67	0.10	2.50	0.00	0.00	21.27
Waste	6.66	0.39	9.80	0.00	0.00	16.85
Total Proposed Project-Related Emissions[3]	**937.71**	**0.53**	**13.3**	**0.00**	**0.00**	**951.54**
Net Increase Over Existing Emissions[3]						
Construction (amortized over 30 years)	10.16	0.00	0.00	0.00	0.00	10.16
Area Source	13.05	0.00	0.00	0.00	0.00	13.05
Mobile Source	503.65	0.02	0.50	0.00	0.00	504.17
Energy	181.13	0.01	0.25	0.00	0.00	181.39
Water Demand	18.67	0.10	2.50	0.00	0.00	21.27
Waste	6.66	0.39	9.80	0.00	0.00	16.85
Total Net Emissions (Proposed-Existing)	**733.32**	**0.52**	**13.05**	**0.00**	**0.00**	**746.89**

Notes:
1. Emissions calculated using California Emissions Estimator Model.
2. Carbon dioxide equivalent values calculated using the United States Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed April 28, 2016.
3. Totals may be slightly off due to rounding.

Refer to Appendix 8.1, *Air Quality/Greenhouse Gas Data*, for detailed model input/output data.

Solid Waste. Solid waste associated with operations of the proposed project would result in an approximate net increase of 16.85 $MTCO_2eq/yr$; refer to Table 4.7-1.

Total Proposed Project-Related Sources of Greenhouse Gases

As shown in Table 4.7-1, the total net amount of proposed project-related BAU GHG emissions from direct and indirect sources combined would total 746.89 $MTCO_2eq/yr$.

Although the proposed project's GHG emissions are below the 3,000 $MTCO_2eq/yr$ GHG threshold, the proposed project includes design features that would further reduce project-related GHG emissions. The proposed project would comply with Title 24 requirements as well as the California Green Building Code standards. The project proposes to install energy efficient lighting and appliances throughout the project site. Additionally, the proposed project would install water efficient irrigation systems and landscapes, as well as incorporate water reducing features and fixtures into the buildings. Due to the project site's location, existing public transportation options (bus service) are in proximity to the project site. Two bus stops are located in close proximity to the project site including SR-55, and SR-73, located along Baker Street within approximately 250 feet of the project site.

Conclusion

As shown in Table 4.7-1, net operational-related BAU emissions would be 746.89 $MTCO_2eq/yr$, which are below the 3,000 $MTCO_2eq/yr$ threshold. The proposed project's energy, transportation, water, and solid waste efficiency design features would further reduce project-related GHG emissions. Therefore, the proposed project would result in a less than significant impact with regard to GHG emissions.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction and operational GHG emissions as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing the emissions of greenhouse gases?*

Less Than Significant Impact. No applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions apply to the project area. Therefore, the proposed project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs. Also, the proposed project would result in operational GHG emissions that are below the 3,000 $MTCO_2eq/yr$ threshold. The proposed project would also include design features to reduce emissions associated with vehicle trips, energy and water consumption, and solid waste. Thus, a less than significant impact would occur in this regard.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction and operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

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4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		✓		
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?		✓		
d. Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would it create a significant hazard to the public or the environment?				✓
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?			✓	
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				✓

This section is based on the *Phase I Environmental Site Assessment* (Phase I ESA), dated September 8, 2015, and the *Subsurface Assessment Report* (Subsurface Assessment), dated November 30, 2015, both prepared by Bureau Veritas North America, Inc. (BVNA) (refer to Appendix 8.3, *Hazardous Materials Documentation*).

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact. Substantial risks associated with hazardous materials are not typically associated with residential uses. Minor cleaning products along with the occasional use of pesticides and herbicides for landscape maintenance of the project site are generally the extent of hazardous materials that would be routinely utilized on-site. Thus, as the presence and on-site

storage of these materials are common for residential uses and would not be stored in substantial quantities (quantities required to be reported to a regulatory agency), impacts in this regard are less than significant.

Limited amounts of some hazardous materials could be used in the short-term construction of the project, including standard construction materials (e.g., paints and solvents), vehicle fuel, and other hazardous materials. The routine transportation, use, and disposal of these materials would be required to adhere to State and local standards and regulations for handling, storage, and disposal of hazardous substances. With compliance with the existing State and local procedures that are intended to minimize potential health risks associated with their use or the accidental release of such substances, impacts associated with the handling, storage, and transport of these hazardous materials during construction would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) ***Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

Less Than Significant Impact With Mitigation Incorporated. During project construction, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized during construction. The contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law.

Based on the Phase I ESA, the project site was historically utilized for agricultural land uses until sometime prior to 1938. By 1963, the project site was developed with industrial uses until 1986, at which time the project site was converted into a self-storage facility. Based on the findings presented in the Phase I ESA, these existing and past uses potentially contaminated soil at the project site. The proposed grading activities could present a hazard to the public or the environment through upset and/or accidental conditions. In order to confirm whether or not contamination is actually present (presenting a hazard during construction), a Subsurface Assessment was prepared. The following is a discussion of the findings made by the Subsurface Assessment.

Past Agricultural Activities

The project site was historically used for agricultural purposes from at least 1938 until the 1960's. A combination of several commonly used pesticides (i.e., Dichlorodiphenyl-dichloroethane [DDD],

dichlorodiphenyltrichloroethane [DDT], Dichlorodiphenyldichloroethylene [DDE]), which are now banned may have been used throughout the historical agricultural portions of the project site (particularly in the 1950's and 1960's). The historical use of agricultural pesticides may have resulted in pesticide residues of certain persistence in soil at concentrations that are considered to be hazardous according to established Federal regulatory levels. The primary concern with historical pesticide residues is human health risk from inadvertent ingestion of contaminated soil, particularly by children.

Based on the Subsurface Assessment, soil samples were collected from approximately 1.5 to 2.0 feet below ground surface (bgs) (as residual pesticide contamination is typically present in topsoils). Three organo-chlorine pesticides (OCPs) (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were detected at low levels in one or more of the soil samples collected. However, none of the detected concentrations of pesticides exceeded the applicable U.S. Environmental Protection Agency (EPA) regional screening levels (RSLs). Although low, based on the detection of the OCPs, there is the possibility that these compounds would be encountered in soil during proposed grading and construction activities, as well as in soils underlying proposed residential uses.

In order to ensure that impacts are less than significant, the project would be required to implement a soil management plan (SMP) during grading activities (HAZ-1). The SMP would provide guidelines for safety measures, soil management, and handling of disturbed soils. The SMP would also be required to present a decision framework and specific risk management measures for managing soil in a manner protective of human health and consistent with applicable regulatory requirements. With implementation of the recommended Mitigation Measure HAZ-1, impacts in this regard would be reduced to less than significant levels.

Former Industrial Uses

The project site was historically used for industrial purposes from at least 1963 through 1986. Based on the Phase I ESA, former companies that occupied the site included Costa Mesa Knitting Mills, Deltronic Corp., Frank's Garage, High Precision Grinding, and Lido Van & Storage. Although no releases were reported in association with these businesses, these types of uses present a concern related to potential soil contamination at the project site.

Based on the Subsurface Assessment, volatile organic compound (VOCs) including cis-1,2-dichloroethene (Cis-1,2-DCE) and trichloroethylene (TCE) were detected at low levels in soil samples; refer to Exhibit 4.8-1, *Soil Sample Results*. The maximum concentrations detected for cis-1,2-DCE and TCE were 28 micrograms per kilogram (µg/kg) and 48.3 µg/kg, respectively. Gasoline-range total petroleum hydrocarbons (TPH-g), TPH as Diesel (TPH-D), and fuel oxygenates were not detected in any of the soil samples. TPH as oil (TPH-o) was detected in one soil sample collected at a concentration of 1,460 milligrams per kilogram (mg/kg). Trace metals were detected in one sample that was analyzed for metals at concentrations that were generally consistent with natural background levels.

Source: Bureau Veritas North America, Inc., *Phase II Environmental Site Assessment*, dated November 30, 2015.

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Soil Sample Results

Exhibit 4.8-1

None of the reported concentrations for the detected chemical compounds exceeded regulatory guidance concentrations, with the exception of TPH-o. The concentration of 1,460 mg/kg for TPH-o exceeds the EPA RSL of 82 to 520 mg/kg. This concentration also exceeds the San Francisco Regional Water Quality Control Board (RWQCB-SF) Environmental Screening Level (ESL) of 100 mg/kg.[1] TPH-g was not detected based upon soil samples taken at the project site. However, benzene was detected ranging from 0.010 to 0.383 µg/L; refer to Exhibit 4.8-2, *Soil Vapor Sample Results*.

The benzene concentration in four soil vapor samples exceeded the ESL of 0.042 µg/L. Ethylbenzene, toluene, and total xylenes were also detected at low levels in one or more of the samples collected; however, they were detected at concentrations below regulatory guidance levels. Cis-1,2-DCE was detected ranging from 0.043 to 7.0 µg/L, which exceeds the ESL of 3.7 µg/L. Tetrachloroethylene (PCE) was detected ranging from 0.003 to 1.28 µg/L, some samples of which exceed the ESL of 0.210 µg/L for PCE in subsurface soil vapor for residential property. TCE was detected ranging from 0.007 to 16.5 µg/L, some of which exceeded the ESL of 0.036 µg/L for TCE in subsurface soil vapor for residential property. Vinyl Chloride was detected at 0.219 µg/L, which exceeds the ESL of 0.160 µg/L. Low concentrations of additional chemical compounds that were well below regulatory guidance levels were also detected in some of the soil vapor samples.

Based on the detection of the VOCs and TPH-o, there is the possibility that these compounds would be encountered in soil during proposed grading and construction activities, as well as in soils underlying proposed residential uses. As discussed above, the project would be required to implement a SMP during site disturbance activities (HAZ-1). The construction contractor would also be required to make observations during grading, utility trenching, and footing excavations for the presence unknown buried structures, containers, debris, and/or soil potentially impacted by chemicals compounds or fuel and oil hydrocarbons (HAZ-2). Indications of impacted soil may include chemical or fuel odors, unusual coloration, apparent moisture, and staining. If any of the above are encountered, a qualified environmental professional with Phase II/Site Characterization experience would be required to be consulted to provide field monitoring using appropriate instrumentation, such as a photoionization detector (PID), and to assist with segregation of excavated material for proper disposal at a licensed waste-handling facility.

In order to ensure that potential accidental conditions involving exposure of future residential uses to contaminated soil vapors does not result, the project Applicant would be required to install a vapor barrier beneath future structures that overlie the locations where chemical compounds were detected at levels above the ESLs (HAZ-3). Vapor barrier design activities would be required to include consideration of the materials and methods to be used during vapor barrier installation as well as the locations where the vapor barriers are necessary, including a buffer zone. The vapor barriers would be installed prior to emplacement of concrete floor slabs and footings. Below-ground ventilation lines would also be required to be constructed, prior to concrete work, such that chemical vapors would not be trapped below the concrete floor slabs. The ventilation lines would be required to be open to the exterior of the structures, preferably at least 8 feet above the ground surface (or otherwise directed by a qualified environmental professional with Phase II/Site Characterization experience).

[1] The ESLs were developed for use in the Bay Area, but can be used to provide conservative guidance thresholds for chemical compounds for which other appropriate guidance is not available.

Source: Bureau Veritas North America, Inc., *Phase II Environmental Site Assessment*, dated November 30, 2015.

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INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Soil Vapor Sample Results

Exhibit 4.8-2

With implementation of the recommended Mitigation Measures HAZ-1 through HAZ-3, potential impacts as a result of the former on-site industrial uses would be reduced to less than significant levels.

Existing Self-Storage Facility Uses

Based on the Phase I ESA, two 55-gallon drums of waste oil were reportedly removed from the southeast corner of project site in June 2015 (while under operation as a self-storage facility). One of the drums was not covered, resulting in filling and overflowing with oily water, which impacted the surrounding soil. Environmental Logistics removed the drums and impacted soil. At this time, other miscellaneous materials including dried latex, roof tar, aerosols, sodium hydroxide solid, and photo chemicals that had been stored in on-site units were also removed from the project site. Based on the Phase I ESA, the former spill of hazardous materials to on-site soils presents an environmental concern.

As discussed above, none of the reported concentrations for the detected chemical compounds exceeded regulatory guidance concentrations, with the exception of TPH-o. The concentration of 1,460 mg/kg for TPH-o exceeds the EPA RSL of 82 to 520 mg/kg. This concentration also exceeds the RWQCB-SF ESL of 100 mg/kg. Based on the detection of the VOCs and TPH-o, there is the possibility that these compounds would be encountered in soil during proposed grading and construction activities, as well as in soils underlying proposed residential uses. The project would be required to implement a SMP during site disturbance activities (HAZ-1). With implementation of the recommended Mitigation Measure HAZ-1, impacts in this regard would be reduced to less than significant levels.

Reported Release to Groundwater at Newport Mesa Unified School District

Newport Mesa Unified School District, located at 2985 Bear Street (to the east of the project site), operated four underground storage tanks (USTs). In 1990, a release of kerosene, Stoddard solvent/mineral spirits, or petroleum distillates, occurred to the soil. In 1990, the Orange County Health Care Agency (OCHCA) granted regulatory closure. In 1997, those four USTs were removed from this off-site property and a new 10,000-gallon gasoline UST and a 15,000-gallon diesel UST were installed. During removal of the former USTs, soil sampling indicated the presence of TPH-g and methyl tert-butyl ether (MTBE) near the dispenser island and underground piping. Soil vapor extraction and groundwater monitoring were initiated in 2007 and remediation of this off-site property remains ongoing with the OCHCA.

Based on the *Work Plan to Conduct a Vapor Rebound Test of the Air Sparge/Soil Vapor Extraction System*, prepared by Cardno, dated September 18, 2015, Figure 2, *Generalized Site Plan – Isocon TPHg for 08/08/2011*, and Figure 2A, *Isocon TPHg for 07/25/2015*, the resultant contamination plume is located greater than 270 feet from the eastern boundary of the project site. Based upon the ASTM E 2600-10 Standard Guide for Vapor Encroachment Screening on Property Involved in real Estate Transactions, vapors are not anticipated to migrate greater than 100 feet from a plume. Thus, based on this information, as well as the sampling results from the Subsurface Assessment, this off-site property is not anticipated to have impacted the project site. Impacts in this regard are less than significant.

Existing On-Site Structure

The existing on-site structures were constructed prior to 1978. Thus, the potential for asbestos containing materials (ACM) and/or lead-based paints (LBPs) exists. Demolition of the structures could expose construction personnel and the public to ACMs or LBPs. Federal and State regulations govern the renovation and demolition of structures where ACMs and LBPs are present. All demolition that could result in the release of ACMs or LBPs must be conducted according to Federal and State standards. Further, implementation of the proposed project would be required to comply with the City's standard conditions of approval (Standard Condition 4.8-1 through Standard Condition 4.8-3) pertaining to identification and abatement of these materials prior to and during site demolition activities in order to ensure worker safety. With implementation of Standard Condition 4.8-1 through Standard Condition 4.8-3, impacts in this regard would be reduced to less than significant levels.

Conclusion

Implementation of the recommended Mitigation Measures HAZ-1 through HAZ-3 and Standard Condition 4.8-1 through Standard Condition 4.8-5 would ensure that impacts pertaining to exposure of workers during construction and future residents at the project site to identified potential hazardous materials are less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts as the proposed project, less than significant impacts would result with implementation of the recommended Mitigation Measures HAZ-1 through HAZ-3 and Standard Condition 4.8-1 through Standard Condition 4.8-5 (similar to the proposed project).

Standard Conditions:

SC 4.8-1 Prior to demolition activities, removal and/or abatement of asbestos containing building materials, lead based paints, and hazardous materials associated with the existing building materials, an investigation shall be conducted by a qualified environmental professional in consultation with the Costa Mesa Fire Department. An asbestos and hazardous materials abatement plan shall be developed by the qualified environmental professional, in order to clearly define the scope and objective of the abatement activities.

SC 4.8-2 During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

SC 4.8-3 During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other

wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

SC 4.8-4 Prior to investigations, demolition, or renovation, all activities shall be coordinated with Dig Alert (811).

SC 4.8-5 Visual inspections for areas of impact to soil shall be conducted during site grading. If unknown or suspect materials are discovered during construction by the contractor that are believed to involve hazardous wastes or materials, the contractor shall:

- Immediately stop work in the vicinity of the suspected contaminant, removing
- workers and the public from the area;
- Notify the City Engineer and Costa Mesa Fire Department;
- Secure the area(s) in question; and
- Implement required corrective actions, including remediation if applicable.

Mitigation Measures:

HAZ-1 Prior to issuance of a grading permit, a Soil Management Plan (SMP) shall be prepared by a qualified environmental professional with Phase II/Site Characterization experience. The SMP shall be made available to the contractor and the City Engineer for use during grading activities. The SMP shall include guidelines for safety measures and soil management in the event that soils are to be disturbed, and for handling soil during any planned earthwork activities. The SMP shall also include a decision framework and specific risk management measures for managing soil, including any soil import/export activities, in a manner protective of human health and consistent with applicable regulatory requirements.

HAZ-2 Observations shall be made by the contractor during grading, utility trenching, and footing excavations for the presence unknown buried structures, containers, debris, and/or soil potentially impacted by chemicals compounds or fuel and oil hydrocarbons. Indications of impacted soil may include chemical or fuel odors, unusual coloration, apparent moisture, and staining. If any of the above are encountered, a qualified environmental professional with Phase II/Site Characterization experience shall be consulted to provide field monitoring using appropriate instrumentation, such as a photoionization detector (PID), and to assist with segregation of excavated material for proper disposal at a licensed waste-handling facility.

HAZ-3 The Applicant shall install an appropriately designed vapor barrier beneath future structures that overlie the locations where chemical compounds were detected at levels above the ESLs. Vapor barrier design activities shall include consideration, by a qualified environmental professional with Phase II/Site Characterization experience, of the materials and methods to be used during vapor barrier installation as well as the locations where the vapor barriers are necessary, including a buffer zone. The vapor barriers shall be installed prior to emplacement of concrete floor slabs and footings. Below-ground ventilation lines shall also be constructed, prior to concrete work, such that chemical vapors are not trapped below the concrete floor slabs. The ventilation lines shall be open to the exterior of the structures, preferably at least 8 feet above the ground surface, or as otherwise specified by the Phase II/Site Characterization specialist.

c) ***Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

Less Than Significant Impact With Mitigation Incorporated. The nearest school (Sonora Elementary School) adjoins the project site to the south. The proposed project is anticipated to involve the demolition of existing structures and potential soil remediation activities that may require the handling of hazardous materials at the project site as well as the transport of contaminated materials off-site to an approved landfill facility. These activities would be required to comply with Federal, State, and local laws and regulations regarding the handling and transport of hazardous materials. With compliance with Federal, State, and local laws and regulations as well as implementation of the recommended Mitigation Measure HAZ-1 and Standard Condition 4.8-1 through Standard Condition 4.8-3, the project is not anticipated to result in any negative impacts involving the handling of hazardous materials, substances, or waste within the vicinity of this school. Impacts in this regard would be less than significant.

The proposed project would result in the construction of residential uses, which would not involve the handling of hazardous materials or hazardous emissions in reportable quantities. Thus, no impacts would result in this regard.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result with compliance with Federal, State, and local laws and regulations as well as implementation of the recommended Mitigation Measure HAZ-1 and Standard Condition 4.8-1 through Standard Condition 4.8-3 (similar to the proposed project).

Standard Conditions: Refer to SC 4.8-1 through SC 4.8-3.

Mitigation Measures: Refer to Mitigation Measure HAZ-1.

d) ***Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

No Impact. Based on Appendix L, *Regulatory Database Report*, of the Phase I ESA, the project site is not reported on a list maintained pursuant to Government Code Section 65962.5. No impacts would result in this regard.

Site Plan Alternative

As the Site Plan Alternative would occupy the same site as the proposed project, no impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?***

Less Than Significant Impact. The nearest airport to the project site is the John Wayne Airport, located approximately 1.22 miles to the east. The project site is not located within the airport's Safety Compatibility Zones.[2] However, the project site is located within the Airport Environs Land Use Plan (AELUP) Notification Area for John Wayne Airport.[3] The Airport Land Use Commission (ALUC) has adopted the Federal Aviation Regulations (FAR) Part 77 as the criteria for determining height restrictions in Orange County. FAR Part 77 requires notification to Federal Aviation Administration (FAA) for any project that would be more than 200 feet in height above the ground level pursuant to FAR Part 77 Section 77.13. The project would involve construction of single-family residential structures. The proposed project would not exceed FAA's notification requirement of 200 feet and would not introduce a safety hazard associated with airport operations. Thus, a less than significant impact would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not would not exceed FAA's notification requirement of 200 feet and would not introduce a safety hazard associated with airport operations. Less than significant impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

f) ***For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?***

No Impact. There are no private airstrips located within the vicinity of the proposed project, and no impacts would occur in this regard.

Site Plan Alternative

The Site Plan Alternative would occur at the same location as the project and would result in the same operations. Thus, similar to the proposed project, no impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

g) ***Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

[2] Airport Land Use Commission for Orange County, *Airport Environs Land Use Plan for John Wayne Airport*, amended April 17, 2008.
[3] Ibid.

Less Than Significant Impact. The Costa Mesa Disaster Plan serves as the City's Emergency Operations Plan (EOP). The EOP provides guidance during emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The Plan does not address normal day to-day emergencies or the well-established and routine procedures used in coping with such emergencies. Rather, the EOP analyzes potential large-scale disasters that require a coordinated and immediate response. The EOP considers the City's evacuation routes in its planning.

The proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. General Plan Safety Element Exhibit SAF-20, *Emergency Evacuation Routes*, illustrates the City's emergency evacuation routes and indicates that the nearest designated emergency evacuation route is Fairview Road, located to the west of the project site. Project construction activities could result in short-term temporary impacts to street traffic along Baker Street. While temporary lane closures may be required, travel along surrounding roadways would remain open and would not interfere with emergency access in the site vicinity, including Fairview Road. The project would not affect the existing emergency service operations. As such, impacts in this regard would be less than significant.

Site Plan Alternative

The Site Plan Alternative would occur at the same location as the project and would result in the same construction impacts and operations. Thus, similar to the proposed project, impacts in this regard would be less than significant.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

h) ***Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?***

No Impact. The project site is located within a completely urbanized area that is void of any wildland areas. Further, according to the California Department of Forestry and Fire Protection, the project site is not located within the vicinity of a "Very High Fire Hazard Severity Zone".[4] Thus, no impact would occur in this regard.

Site Plan Alternative

The Site Plan Alternative would occur at the same location as the project and would result in the same operations. Thus, similar to the proposed project, no impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[4] California Department of Forestry and Fire Protection, *Fire hazard Severity Zones in SRA*, adopted on November 7, 2007, http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps.php, accessed April 25, 2016.

4.9 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?			✓	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?			✓	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?			✓	
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			✓	
f. Otherwise substantially degrade water quality?			✓	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				✓
h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?				✓
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			✓	
j. Inundation by seiche, tsunami, or mudflow?				✓
k. Potentially impact storm water runoff from construction activities?			✓	
l. Potentially impact storm water runoff from post-construction activities?			✓	
m. Result in a potential for discharge of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?				✓

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
n. Result in the potential for discharge of storm water to affect the beneficial uses of the receiving waters?			✓	
o. Create the potential for significant changes in the flow velocity for volume of storm water runoff to cause environmental harm?			✓	
p. Create significant increases in erosion of the project site or surrounding areas?			✓	
q. Would the project include new or retrofitted stormwater treatment control Best Management Practices (BMPs), (e.g. water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environment effects?			✓	
r. Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, could the project result in an increase in any pollutant for which the water body is already impaired?			✓	

The information presented in this analysis has been supplemented with the *Preliminary Hydrology Study* (Hydrology Study) and the *Preliminary Water Quality Management Plan* (WQMP), prepared for the proposed project by C&V Consulting (dated November 13, 2015); refer to Appendix 8.4, *Hydrology/Water Quality Documentation*.

a) *Violate any water quality standards or waste discharge requirements?*

Less Than Significant Impact. As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has established regulations under the National Pollutant Discharge Elimination System (NPDES) program to control direct storm water discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City of Costa Mesa is within the jurisdiction of the Santa Ana RWQCB.

Short-Term Construction

Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which would be enforced through Standard Condition 4.9-1. The SWPPP would contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP would list Best Management Practices (BMPs) the discharger would use to protect storm water runoff and the placement of those BMPs. These BMPs would include measures to contain runoff from vehicle washing at the construction site, prevent sediment from disturbed areas from entering the storm drain system using structural controls (i.e., sand bags at inlets), and cover and contain stockpiled materials to prevent sediment and pollutant transport. Implementation of the BMPs would ensure runoff and discharges during the project's construction phase would not violate any water quality standards. The SWPPP would contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The project Applicant would be required to prepare a Notice of Intent (NOI) for submittal to the Santa Ana RWQCB providing notification of intent to comply with the General Construction Permit. Additionally, the SWPPP would be required to be reviewed/approved by the City (or designee), for water quality construction activities on-site. A copy of the SWPPP would be made available and implemented at the construction site at all times.

In addition to the Santa Ana RWQCB requirements, the City enforces its Master Plan of Drainage through Municipal Code Section 8-32, *Water Quality*, which addresses drainage protocols within the City during construction of new projects (compliant with the Orange County Drainage Area Management Plan [DAMP] requirements during construction). Per these requirements, the Development Services Department and Public Services Department would review the grading/building plans and impose terms, conditions, and requirements, as needed, in accordance with Municipal Code Section 8-32. Compliance with City and NPDES requirements would reduce short-term construction-related impacts to water quality to a less than significant level.

Long-Term Operations

The project would be regulated under the NPDES Phase I Municipal Stormwater Permits issued by the Santa Ana RWQCB for Orange County.

Santa Ana RWQCB Requirements

Since 1990, operators of municipal separate storm sewer systems are required to develop a stormwater management program designed to prevent harmful pollutants from impacting water resources via stormwater runoff. The Orange County Stormwater Program (Stormwater Program) is a cooperative of the County of Orange, Orange County Flood Control District (OCFCD), and all 34 Orange County cities. As the Principal Permittee on the Santa Ana RWQCB NPDES permits, the County guides development and implementation of the Stormwater Program, collaborating regularly with co-permittees to ensure compliance and prevent ocean pollution.

The Stormwater Program's specific water pollutant control elements are documented in the DAMP. The DAMP satisfies the NPDES permit conditions for creating and implementing an Urban Runoff Management Program (URMP). The intent of an URMP is to reduce pollutant discharges to the maximum extent practicable for the protection of water quality at receiving water bodies and the support of designated beneficial uses. The DAMP contains guidance on both structural and nonstructural BMPs for meeting these goals. Prior to the City's issuance of a Grading or Building Permit for the project, the Development Services Department and Public Services Department would review the plans and impose terms, conditions, and requirements, as needed, in accordance with Municipal Code Section 8-32. Additionally, the City enforces its Master Plan of Drainage, and Municipal Code Title 15 Chapter III addresses drainage protocols within the City during construction of new projects. With implementation of the DAMP requirements (as required by Section 8-32 of the Municipal Code), the project would be required to prepare a WQMP in accordance with the requirements of the NPDES standards.

The draft WQMP for the proposed project has been included in Appendix 8.4. Due to the developed character of the project site, construction of the proposed project would result in a decrease in impervious areas below existing conditions by 0.31 percent (or 1.43 acres). The project would also result in a 1.37-cubic foot per second (cfs) decrease in flow rate between pre- and post-development. Based on the WQMP, expected pollutants of concern would include suspended-solid/sediment, nutrients, pathogens (bacteria/virus), pesticides, oil and grease, and trash and debris. Listed 303(d) impairments to the watershed include PCB's, sediment toxicity, nickel, chlordane, copper, lead, pathogens, and toxicity.

Surface flows would be directed into an area drain piping system or into on-site curb and gutters which would convey the flow to five separate Filterra Biofiltration vaults. From each vault, the flows would be conveyed into a single storm drain pipe that flows north through the proposed main street. This single pipe would run out into Baker Street and connect to the existing 72-inch reinforced concrete pipe (RCP) storm drain. From there it would follow the existing flow path to the east down Baker Street.

The drainage design for the project site would meet the County of Orange Flood Control Standards and is capable of managing runoff from a 100-year storm. Additionally, the decrease in flow rate between pre- and post-development would be approximately a 10 percent decrease (1.37 cfs). All paving, sidewalk storm drains, and bio-retention devices within the project's private street rights-of-way, as well as landscaped areas, would be privately maintained by the project's Homeowner's Association (HOA). BMPs proposed include, but would not be limited to, education materials for property owners, tenants, and occupants; activity restrictions; common area landscape management; BMP maintenance; street sweeping; storm drain system stenciling and signage; and bioretention.

As discussed above, following compliance with the requirements of the NPDES (including finalization of the WQMP for the project), DAMP, and City water pollution regulations (required per Standard Condition 4.9-1), project implementation would not violate any water quality standards or waste discharge requirements associated with long-term operations. Impacts in this regard would be less than significant.

Site Plan Alternative

Although slightly more impervious area (0.5 percent), the Site Plan Alternative would result in similar construction impacts and operations as the proposed project. Less than significant

impacts would result following compliance with the requirements of the NPDES (including finalization of the WQMP for the project), DAMP, and City water pollution regulations (required per Standard Condition 4.9-1) (similar to the proposed project).

Standard Conditions: Refer to Standard Condition 4.6-4.

SC 4.9-1 In order to comply with the DAMP, the project shall prepare a Storm Drain Plan, Stormwater Pollution Prevention Plan (SWPPP), and Water Quality Management Plan (WQMP) conforming to the current National Pollution Discharge Elimination System (NPDES) requirements, prepared by a Licensed Civil Engineer or Environmental Engineer, which shall be submitted to the Department of Public Services for review and approval.

- The SWPPP shall be prepared and updated as needed during the course of construction to satisfy the requirements of each phase of development. The plan shall incorporate all necessary Best Management Practices (BMPs) and other City requirements to eliminate polluted runoff until all construction work for the project is completed. The SWPPP shall include treatment and disposal of all dewatering operation flows and for nuisance flows during construction.

- A WQMP shall be maintained and updated as needed to satisfy the requirements of the adopted NPDES program. The plan shall ensure that the existing water quality measures for all improved phases of the project are adhered to.

- Location of the BMPs shall not be within the public right-of-way.

Mitigation Measures: No mitigation measures are required.

b) ***Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?***

Less Than Significant Impact. The project would not substantially deplete groundwater supplies. According to General Plan EIR Exhibit 4.8-2, *Water Supply Agency Boundaries*, Mesa Consolidated Water District (Mesa Water) supplies water to the project site. According to Mesa Water's latest Urban Water Management Plan (UWMP)[1], the main sources of water supply are groundwater pumped from wells within the Lower Santa Ana River Groundwater Basin (Orange County Basin) and imported water from Metropolitan Water District of Southern California through Municipal Water District of Orange County. However, no municipal water wells underlie the project site. Implementation of the project would not create a substantial demand on groundwater sources and would not significantly change the amount of groundwater available and pumped from local wells. The site consists of 4.71 acres of developed land. Due to the developed nature of the area, the project site does not have the capacity to serve as a significant source for groundwater recharge. The project does not involve the direct withdrawal of groundwater for

[1] Mesa Consolidated Water District, *2010 Urban Water Management Plan*, June 2011.

municipal use and would not substantially interfere with recharge capabilities. Thus, impacts in this regard are less than significant.

Site Plan Alternative

Although slightly more impervious area (0.5 percent), the Site Plan Alternative would occur at the same location and would result in similar operations as the proposed project. Thus, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) ***Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?***

Less Than Significant Impact. Soil disturbance would temporarily occur during project construction due to earth-moving activities such as excavation and trenching for foundations and utilities, soil compaction and moving, and grading. Disturbed soils would be susceptible to high rates of erosion from wind and rain, resulting in sediment transport via stormwater runoff from the project site.

The project would be subject to compliance with the requirements set forth in the NPDES Storm Water General Construction Permit for construction activities; refer to Response 4.9(a). Compliance with the NPDES, including preparation of a SWPPP (Standard Condition 4.9-1) would reduce the volume of sediment-laden runoff discharging from the site. Therefore, project implementation would not substantially alter the existing drainage pattern of the site during the construction process such that substantial erosion or siltation would occur.

Given the nature of the proposed use and the urbanized project setting, long-term operation of the project would not have the potential to result in substantial erosion or siltation off-site. The project would not include large areas of exposed soils that would be subject to runoff; rather, any unpaved areas would be improved with groundcover and landscaping to minimize the potential for erosion/siltation. In addition, as stated within Response 4.9(a), the project would also be subject to existing requirements of the NPDES (including approval of the project's WQMP), DAMP, and City's water pollution regulations (as required by Standard Condition 4.9-1), which would reduce sediment discharge off-site compared to the existing condition. Thus, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would occur at the same location and would result in the same construction impacts and operations as the proposed project, less than significant impacts would result with compliance with NPDES requirements (including approval of the project's WQMP), DAMP, and City's water pollution regulations (as required by Standard Condition 4.9-1).

Standard Conditions: Refer to SC 4.9-1.

Mitigation Measures: No mitigation measures are required.

d) ***Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?***

Less Than Significant Impact. The project site is generally flat, consists of a self-storage facility, and is located within an urbanized area. Due to the developed nature of the project site, implementation of the proposed project would result in a decrease in the percentage of impervious surface at the site, by 0.31 percent (1.43 acres). The project proposes to capture and biotreat/biofilter on-site flows prior to discharging to the proposed storm drain system on-site and ultimately to the 72-inch storm drain in Baker Street. The drainage design for the project site would meet the County of Orange Flood Control Standards and is capable of managing runoff from a 100-year storm. The project would not result in a substantial change in topography that would alter or change flow patterns in the project area. In addition, the project would incorporate landscaping features, which would assist in reducing the amount of storm water traveling off-site. The existing 72-inch storm drain in Baker Street is anticipated to adequately service the runoff from the project site. Further, the proposed project would result in a decrease in impervious area over the existing condition. Based on the proposed storm drain system design capacity for the 100-year storm event, the project would not result in flooding on- or off-site. Impacts in this regard would be less than significant.

Site Plan Alternative

Although slightly more impervious area (0.5 percent), the Site Plan Alternative would occur at the same location and would result in similar operations as the proposed project. Thus, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

e) ***Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

Less Than Significant Impact. As noted in Response 4.9(d), the project area is generally flat and is currently developed with a self-storage facility. Currently, surface flow is conveyed to an existing concrete gutters that run south to north on each side of the building to private storm drain inlets adjacent to Baker Street. Flows are conveyed off-site to the existing storm drain system located at the approximate centerline of Baker Street.

Underground storm facilities are proposed for the project site. Storm water runoff in the project's proposed state would surface flow to on-site catch basins prior to being conveyed to the City's existing 72-inch RCP storm drain pipe within Baker Street. Overall, the proposed project would result in a 0.31 percent decrease in impervious area, would reduce runoff-impacts from the existing drainage onto the City of Costa Mesa storm drain facilities, and is not expected to exceed the capacity of existing/planned storm water drainage system. The project would not result in a substantial change in topography that would alter or change flow patterns in the project area. In addition, the project would incorporate landscaping features and would reduce the amount of

impervious surfaces, which would assist in reducing the amount of storm water traveling off-site. The existing 72-inch storm drain in Baker Street is anticipated to adequately service the increased runoff from the project site. Less than significant impacts related to potential polluted runoff from the site are discussed in Response 4.9(a), above. Impacts would be less than significant in this regard.

Site Plan Alternative

Although slightly more impervious area (0.5 percent), the Site Plan Alternative would occur at the same location and would result in similar operations as the proposed project. Thus, less than significant impacts would result with compliance with Standard Condition 4.9-1 (similar to the proposed project).

Standard Conditions: Refer to SC 4.9-1.

Mitigation Measures: No mitigation measures are required.

f) *Otherwise substantially degrade water quality?*

Less Than Significant Impact. The proposed project involves a residential use, which due to its scope and nature, would not otherwise substantially degrade water quality. As discussed in Response 4.9(a), with compliance with the existing requirements of the NPDES (including approval of the project's WQMP), DAMP, and City's water pollution regulations (as required by Standard Condition 4.9-1), impacts in this regard would be less than significant.

Site Plan Alternative

Although slightly more impervious area (0.5 percent), the Site Plan Alternative would occur at the same location and would result in similar operations as the proposed project. Thus, less than significant impacts would result with compliance with Standard Condition 4.9-1 (similar to the proposed project).

Standard Conditions: Refer to SC 4.9-1.

Mitigation Measures: No mitigation measures are required.

g) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact. According to the Flood Insurance Rate Map (FIRM) for the project area, the project site is located within "Zone X", which is an area determined to be outside of the 100-year flood hazard area.[2] As such, no impact would result in this regard.

[2] Federal Emergency Management Agency, *Flood Insurance Rate Map #06059C0267J*, Map Revised December 3, 2009.

Site Plan Alternative

As the Site Plan Alternative would occupy the same site as the proposed project, no impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

h) ***Place within a 100-year flood hazard area structures, which would impede or redirect flood flows.***

No Impact. The project site is not located within a 100-year flood hazard area; refer also to Response 4.9(g).

Site Plan Alternative

As the Site Plan Alternative would occupy the same site as the proposed project, no impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

i) ***Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?***

Less Than Significant Impact. The project site is not located within the inundation area of a levee or dam, or within the City's coastal areas that are subject to coastal storm surges, according to General Plan Exhibit SAF 5, *Flooding and Seismically Induced Waves*. The area of potential flooding from failure of Prado, Santiago, or Villa Park Dams is located approximately 600 feet to the north of the project. Additionally, based on information provided by Orange County Public Works, Flood Division, the plan of improvement for Prado Dam includes:[3]

- Raising the existing embankment 28.4 feet to an elevation of 594.4 feet (completed);
- Raising the spillway crest from elevation of 543 feet to 563 feet;
- Constructing new outlet works, which would increase the maximum discharge capacity from 9,000 to 30,000 cfs (completed);
- Constructing new levees and dikes;
- Acquiring over 2,300 acres of property rights for reservoir expansion;
- Relocating and protecting 30 various utility lines;
- Increasing reservoir area from 6,695 acres to 10,256 acres; and
- Increasing-impoundment from 217,000 acre-feet to 362,000 acre-feet.

The Army Corps of Engineers has a comprehensive Dam Safety Program that has public safety as its primary objective. Prado Dam is routinely inspected and continually evaluated for safety in

[3] Orange County Public Works, Flood Division, http://ocflood.com/sarp/prado, accessed April 25, 2016.

compliance with the Federal Guidelines for Dam Safety, issued in 1979, and Engineering Regulation ER 1110-2-1156, Safety of Dams (Policy and Procedures).

As the project site is outside of the potential flooding zone, and based on the distance to Prado Dam and the emergency warnings that would be issued in the event of dam failure, the proposed project would not expose people or structures to a significant risk. Therefore, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would occupy the same site as the proposed project, no impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

j) *Inundation by seiche, tsunami, or mudflow?*

No Impact. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

The project site is located greater than 4.8 miles from the Pacific Ocean and is a sufficient distance so as not to be subject to tsunami impacts. The project site is not in the vicinity of a reservoir, harbor, lake, or storage tank capable of creating a seiche. In addition, there are no sources of potential mudflow capable of inundating the project site due to the developed nature of the area and the relatively flat topography of the vicinity. Therefore, no impacts would occur in this regard.

Site Plan Alternative

As the Site Plan Alternative would occupy the same site as the proposed project, no impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

k) *Potentially impact storm water runoff from construction activities?*

Less Than Significant Impact. Refer to Responses 4.9(a) and 4.9(c).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

l) ***Potentially impact storm water runoff from post-construction activities?***

Less Than Significant Impact. Refer to Responses 4.9(a), 4.9(c), and 4.9(e).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

m) ***Result in a potential for discharge of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?***

No Impact. Implementation of the proposed project would result in the removal of existing self-storage facility and the construction of residential uses on-site. Thus, the proposed project would not result in increased discharge of storm water pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas, but rather these existing areas on-site would be removed, resulting in a beneficial impact in this regard. No adverse impacts would result.

Site Plan Alternative

The Site Plan Alternative would occur at the same location as the project and would result in the same operations. Thus, similar to the proposed project, no adverse impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

n) ***Result in the potential for discharge of storm water to affect the beneficial uses of the receiving waters?***

Less Than Significant Impact. Implementation of the proposed project would change discharge to receiving waters, which could impact beneficial uses. As discussed in Response 4.9(a), the intent of an URMP is to reduce pollutant discharges to the maximum extent practicable for the protection of water quality at receiving water bodies and the support of designated beneficial uses. The DAMP contains guidance on both structural and nonstructural BMPs for meeting these goals. With implementation of the DAMP requirements (as required by Section 8-32 of the Municipal Code), the project would be required to prepare a WQMP in accordance with the requirements of the NPDES standards.

The draft WQMP for the proposed project has been included in Appendix 8.4. Due to the developed character of the project site, construction of the proposed project would result in a decrease in impervious areas below existing conditions by 0.31 percent (or 1.43 acres). Based on the WQMP, expected pollutants of concern would include suspended-solid/sediment, nutrients, pathogens (bacteria/virus), pesticides, oil and grease, and trash and debris. Listed 303(d) impairments to the watershed include PCB's, sediment toxicity, nickel, chlordane, copper, lead, pathogens, and toxicity.

As discussed in Response 4.9(a), following compliance with the requirements of the NPDES (including finalization of the WQMP for the project), DAMP, and City water pollution regulations (as required by Standard Condition 4.9-1), project implementation would not result in discharge of storm water such that beneficial uses of receiving waters would be substantially impacted. Impacts in this regard would be less than significant.

Site Plan Alternative

Although slightly more impervious area (0.5 percent), the Site Plan Alternative would occur at the same location and would result in similar operations as the proposed project. Thus, less than significant impacts would result with compliance with Standard Condition 4.9-1 (similar to the proposed project).

Standard Conditions: Refer to SC 4.9-1.

Mitigation Measures: No mitigation measures are required.

o) ***Create the potential for significant changes in the flow velocity for volume of storm water runoff to cause environmental harm?***

Less Than Significant Impact. Refer to Responses 4.9(c), 4.9(d), and 4.9(e).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

p) ***Create significant increases in erosion of the project site or surrounding areas?***

Less Than Significant Impact. Refer to Response 4.9(c).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

q) ***Would the project include new or retrofitted stormwater treatment control Best Management Practices (BMPs), (e.g. water quality treatment basin, constructed treatment wetlands), the operation of which could result in significant environment effects?***

Less Than Significant Impact. Refer to Response 4.9(a).

Standard Conditions: Refer to SC 4.9-1.

Mitigation Measures: No mitigation measures are required.

r) ***Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, could the project result in an increase in any pollutant for which the water body is already impaired?***

Less Than Significant Impact. The nearest impaired water body is the Santa Ana Delhi Channel (located to the east of Bristol Street, east of the project site), which lists indicator bacteria on the 303(d) list.[4] Refer to Responses 4.9(a) and 4.9(b).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[4] State Water Resources Control Board, *2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report) — Statewide*, http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml, accessed May 10, 2016.

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4.10 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?			✓	
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			✓	
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?			✓	

a) *Physically divide an established community?*

Less Than Significant Impact. According to the General Plan, the project site is designated Residential-Medium Density (9-12 units/acre). The existing zoning is R2-MD (Multiple-Family Residential District, Medium Density). The project site currently consists of a self-storage facility and is surrounded by residential, institutional uses, and office uses. As the project proposes 56 single-family residential units, the proposed use would be consistent with the intended residential uses for the site per the General Plan, and within the allowable density (11.89 units/acre). The project would be compatible and similar with existing residential uses that adjoin the project site to the north, west, and southwest. Thus, the project would not physically divide an established community. Impacts in this regard would be less than significant.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not physically divide an established community. Impacts would be less than significant in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) *Conflict with applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Less Than Significant Impact. The *City of Costa Mesa General Plan Land Use Map* designates the project site as Residential-Medium Density. The Residential-Medium Density designation is intended for single-and multi-family developments with a density of up to 12 units to the acre. The project proposes the construction of 56 single-family residential units, which is an allowed use within the Residential-Medium Density designation. No amendment to the General Plan would be required as part of the project.

The project site is zoned R2-MD on the *Costa Mesa Zoning Map*. The R2-MD designation is intended to promote the development of multi-family rental as well as ownership properties on lots with a minimum size of 12,000 square feet. The proposed project is consistent with the intended purpose for the R2-MD zone. The development standards in residential zones are outlined in Municipal Code Section 13-32, *Development Standards,* and discussed below; refer to Table 4.10-1, *Property Development Standards*. As indicated in Table 4.10-1, the proposed project complies with the development standards for R2-MD except for the minimum distance between buildings and rear setback requirements. The project Applicant is requesting an Administrative Adjustment to accommodate a 6-foot building to building setback and a 12-foot setback along the southern property boundary, adjacent to the Paularino Channel. Upon approval of the Administrative Adjustment, the proposed project would be consistent with the zoning regulations for the project site. Impacts in this regard would be less than significant.

Table 4.10-1
Property Development Standards

Development Standard		Existing Zoning Requirement: R2-MD	Proposed Project	Does Project Satisfies Requirement?
Minimum Lot Area		12,000 square feet	4.71 acres	Yes
Maximum Building Height		27 feet for residential uses	Up to 26 feet	Yes
Maximum Density (Based on gross acreage)		1 dwelling unit per 3,630 square feet (12 units per acre), 1 unit per 3,000 square feet for legal lots existing as of March 16, 1992, that are less than 7,260 square feet in area but not less than 6,000 square feet in area.	11.89 units per acre	Yes
Minimum Open Space		40% of total lot area	40% of total lot area	Yes
Distance Between Buildings		10-foot minimum between main buildings; 6-foot minimum between main buildings and accessory structures	6 feet	No[1]
Setbacks	Front	20 feet	20 feet	Yes
	Side[2]	Interior property line: 5 feet.	5 feet	Yes
	Rear	20 feet for 2 story structures.	12 feet	No[3]

Notes:
1. An administrative adjustment is requested to accommodate a 6-foot building to building setback.
2. Accessory structures that do not exceed 6½ feet in height in the R1 zone or 15 feet in height in the other residential zones may have a zero side setback.
3. An administrative adjustment is being requested to accommodate a 12-foot rear setback along Paularino Channel.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would require Administrative Adjustments to accommodate the minimum distance between buildings and rear setback requirements. However, unlike the proposed project, the Site Plan Alternative would provide increased guest parking spaces (by 8 spaces) and less total open space at the project site. The City's Municipal Code requires 40 percent open space on-site. Implementation of this alternative would reduce open space on-site from 40 percent to 39.5 percent, which would not be compliant with the City's requirement of 40 percent. Thus, the Site Plan Alternative would require a

Variance. Upon approval of the Variance, the Site Plan Alternative would be consistent with the zoning regulations for the project site. No additional mitigation measures are required and impacts in this regard would be less than significant.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

Less Than Significant Impact. The City of Costa Mesa is located within the jurisdiction of the County of Orange Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (Orange County Central and Coastal NCCP/HCP), dated July 17, 1996.[1] However, the project site is not designated as a Reserve, Conservation Easement, Non-Reserve Open Space, or Special Linkage.[2] Therefore, the proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. A less than significant impact would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not conflict with any applicable habitat conservation plan or natural community conservation plan. Impacts would be less than significant in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[1] County of Orange, *Natural Community Conservation Plan & Habitat Conservation Plan, County of Orange Central & Coastal Subregion, Parts I & II: NCCP/HCP,* http://occonservation.wpengine.com/wp-content/uploads/2015/04/NCCP-Parts-I-II-Plan.pdf, accessed May 9, 2016.

[2] Data Basin, *Orange County Central Coastal NCCP/HCP,* https://databasin.org/datasets/ed49d8389c2349f2a0c9e56cfc7c48ef, accessed May 9, 2016.

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4.11 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

a) ***Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

No Impact. No known mineral resources occur in the project area.[1] The project site is located within an urbanized area and involves the demolition of an existing on-site self-storage facility (which is not related to mineral resource production) in order to construct residential uses. No known mineral recovery activities have occurred on-site, and the project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State. Thus, no impacts would occur in this regard.

Site Plan Alternative

Similar to the proposed project, the Site Plan Alternative would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State. No impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) ***Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?***

No Impact. Refer to Response 4.11(a).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[1] U.S. Geological Survey, *California State Minerals Information website, 2010-2011 Minerals Yearbook,* http://minerals.usgs.gov/minerals/pubs/state/2010_11/myb2-2010_11-ca.pdf, accessed May 2, 2016.

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4.12 NOISE

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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?		✓		
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?		✓		
e. 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?				✓
f. 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?				✓

This section is based upon the *929 Baker Street, Costa Mesa Noise Letter* (Noise Impact Analysis) prepared by Hans Giroux & Associates, (dated February 16, 2016); refer to Appendix 8.5, *Noise Impact Analysis*.

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air, and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear de-emphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately three dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between three dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of three dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise

generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA.

REGULATORY FRAMEWORK

City of Costa Mesa

General Plan

The Noise Element of the General Plan identifies and evaluates unwanted noise sources in the City, and establishes goals and policies for reducing noise levels in the City. The City has modified the U.S. Department of Housing and Urban Development (HUD) Guidelines and the State's noise standards in its General Plan to serve as the basis for the land use compatibility guidelines presented in Table 4.12-1, *Noise and Land Use Compatibility Matrix*. Table 4.12-2, *Interior and Exterior Noise Standards*, indicates specific quantitative standards and criteria that specify acceptable limits of noise for various land uses throughout the City.

Table 4.12-1
Noise and Land Use Compatibility Matrix

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

Notes:
CNEL = community noise equivalent level; NA = not applicable
Normally Acceptable. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable. New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable. New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
Clearly Unacceptable. New construction or development should generally not be undertaken.

Source: City of Costa Mesa, *City of Costa Mesa 2000 General Plan Table N-3, Noise and Land Use Compatibility Matrix*, January 2002.

Table 4.12-2
Interior and Exterior Noise Standards

Land Use Categories		CNEL (dBA)	
Categories	**Uses**	**Interior[1]**	**Exterior[2]**
Residential	Single-Family, Duplex, Multiple-Family	45[3]	65[4]
	Mobilehome	--	65[5]
Commercial, Industrial, Institutional	Hotel, Motel, Transient Lodging	45	--
	Commercial Retail, Bank, Restaurant	55	--
	Office Building, Research and Development, Professional Offices, City Office Buildings	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	--
	Gymnasium (Multipurpose)	50	--
	Sports Club	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
	Movie Theaters	45	--
Institutional	Hospital, Schools' Classrooms/Playgrounds	45	65
	Church, Library	45	--
Open Space	Parks	--	65

Notes:
1 – Indoor environment including: bathrooms, closets, corridors.
2 – Outdoor environment limited to: Private yard of single-family; multi-family private patio or balcony which is served by a means of an exit from inside the dwelling; balconies six feet deep or less are exempt; mobilehome park; park's picnic area; school's playground.
3 – Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of the Uniform Building Code (UBC).
4 – The City Noise Ordinance further specifies exterior residential areas in a Mixed-Use Overlay District for live/work and multi-family residential development which are approved pursuant to a Master Plan and which are subject to these exterior noise standards. The City Noise Ordinance specifically states "*Exception: For multi-family residential development or live/work units approved pursuant to a master plan in a mixed-use overlay district where the base zoning district is nonresidential, the exterior residential noise environment does not include the following areas: Private balconies or patios regardless of size, private or community roof decks/roof terraces, internal courtyards and landscaped walkways that do not include resident-serving, active recreational uses such as community pool, spa, tennis courts, barbeque, and picnic areas.*"
5 – Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

Source: City of Costa Mesa, *City of Costa Mesa 2000 General Plan Table N-4, State Interior and Exterior Noise Standards*, January 2002.

Municipal Code

Title 13 Chapter XIII, *Noise Control*, of the Municipal Code is known as the City's Noise Ordinance, which includes standards and regulations pertaining to noise. The Noise Ordinance establishes outdoor and indoor noise standards, and is designed to control unnecessary, excessive, and annoying sounds generated on one piece of property from impacting an adjacent property, and to protect residential areas from noise sources other than transportation sources. Table 4.12-3, *Residential Noise Ordinance Standards*, outlines the interior and exterior noise standards for residential uses.

Table 4.12-3
Residential Noise Ordinance Standards

Time	Exterior Noise Standards	Interior Noise Standards
7:00 a.m. – 11:00 p.m.	55 dBA	55 dBA
11:00 p.m. – 7:00 a.m.	50 dBA	45 dBA
Source: City of Costa Mesa Municipal Code, Chapter XIII, *Noise Control*.		

The Noise Ordinance prohibits stationary noise sources to exceed:

- The noise standard for a cumulative period of more than thirty (30) minutes in any hour;
- The noise standard plus five dBA for a cumulative period of more than 15 minutes in any hour;
- The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour;
- The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour; or
- The noise standard plus 20 dBA for any period of time.

The Noise Ordinance also notes that the exterior standards specified in Table 4.12-3 should not apply to private balconies or patios, private or community roof decks/terraces, or internal courtyards and landscaped walkways associated with multi-family residential development or live/work units within a mixed-use overlay district where the base zoning district is nonresidential.

Section 13-279, *Exceptions for Construction,* of the Municipal Code describes the following exemptions to the Noise Ordinance, which are applicable to the project:

The provisions of this chapter shall not apply to the following:

(a) Emergency machinery, vehicles, or work; or
(b) Construction equipment, vehicles, or work between the following approved hours, provided that all required permits for such construction, repair, or remodeling have been obtained from the appropriate City departments.

Hours for Construction Activities:

7:00 a.m. – 7:00 p.m., Mondays through Fridays
9:00 a.m. – 6:00 p.m., Saturdays

Prohibited all hours, Sundays and the following specified federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

(c) Waiver procedure. An applicant may request approval of a minor modification for a temporary waiver for construction equipment, vehicles, or work outside these permitted hours. The minor modification may be granted by the development services director or his/her designee. Any temporary waiver shall take into

consideration the unusual circumstances requiring construction activity outside the permitted hours and the short-term impacts upon nearby residential and business communities.

Minor modification findings shall indicate whether or not the extended construction hours will be materially detrimental to the health, safety, and general welfare of persons residing or working within the immediate vicinity of the construction site.

Unless a temporary waiver is approved, construction activity outside the permitted hours shall still be subject to the city's noise regulations.

EXISTING CONDITIONS

Stationary Sources

The project area is located within an urbanized area. The primary sources of stationary noise in the project vicinity are urban-related activities (i.e., mechanical equipment, commercial areas, parking areas, and pedestrians). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Mobile Traffic Noise Sources

The majority of the existing noise in the project area is generated from vehicle sources along SR-73 and Baker Street. According to the *City of Costa Mesa 2015-2035 Draft General Plan* (Draft General Plan Update), the project site is located within the 60-70 dBA CNEL traffic noise contour.

Aircraft Noise

John Wayne Airport, located approximately 1.50 miles east of the project site, emits noticeable overflight noise in the vicinity of the project site. However, according to the *Land Use Plan for John Wayne Airport*, the project site is not located within any airport noise contour zones.[1]

Sensitive Receptors

Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. The closest existing sensitive receptors include residential uses located approximately 125 feet to the north, 380 feet to the southeast, 90 feet to the south, and adjoining residential uses to the west of the project site. Two schools are also located in the vicinity of the project site, Saint John Baptist School (approximately 345 feet to the west), and Sonora Elementary School (adjoining to the south).

[1] John Wayne Airport, Orange County, *John Wayne Airport 2015 Annual 60, 65, 70, and 75 CNEL Noise Contours*, http://www.ocair.com/reportspublications/AccessNoise/cnelnoisecontours/2015.pdf, accessed April 28, 2016.

a) ***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?***

Less Than Significant Impact With Mitigation Incorporated.

Short-Term Construction

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Construction of the proposed project would occur over approximately 24 months and would include demolition, grading, building construction, and paving. Ground-borne noise and other types of construction-related noise impacts would typically occur during the initial construction phases. These phases of construction have the potential to create the highest levels of noise. Typical noise levels generated by construction equipment are shown in Table 4.12-4, *Maximum Noise Levels Generated by Construction Equipment*. It should be noted that the noise levels identified in Table 4.12-4 are maximum sound levels (L_{max}), which are the highest individual sound occurring at an individual time period. Operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Table 4.12-4
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor[1]	L_{max} at 50 Feet (dBA)
Concrete Saw	20	90
Crane	16	81
Concrete Mixer Truck	40	79
Backhoe	40	78
Dozer	40	82
Excavator	40	81
Forklift	40	78
Paver	50	77
Roller	20	80
Tractor	40	84
Water Truck	40	80
Grader	40	85
General Industrial Equipment	50	85

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

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

Pursuant to the City's Noise Ordinance, construction activities are permitted between 7:00 a.m. and 7:00 p.m. on weekdays, between 9:00 a.m. and 6:00 p.m. on Saturdays, and are prohibited on Sundays and federal holidays (Standard Condition 4.12-1). These permitted hours of construction are required in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant disruption. Implementation of Mitigation Measure NOI-1 would further minimize impacts from construction

noise as it requires construction equipment to be equipped with properly operating and maintained mufflers and other state required noise attenuation devices. Thus, a less than significant noise impact would result from construction activities.

Operational Noise Sources

Mobile Traffic Noise

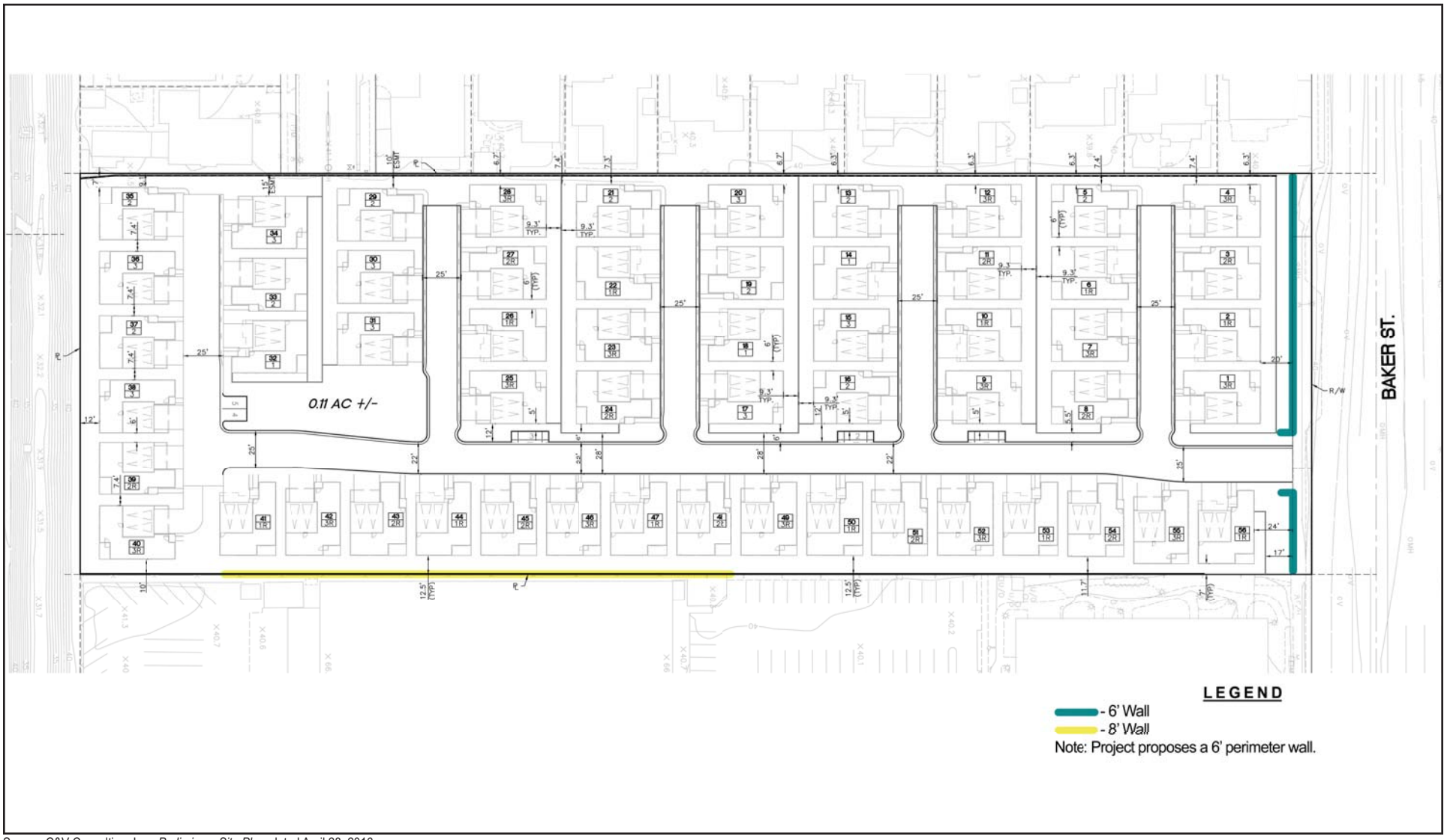
The proposed project would result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. According to the Noise Impact Analysis, traffic noise levels along Baker Street would be approximately 71 dBA CNEL at 50 feet from the roadway centerline. The first row of residential uses proposed along Baker Street would experience noise levels of approximately 70 dBA CNEL on the first floor, and 69 dBA CNEL on the second floor, which would exceed the City's exterior standard (65 dBA CNEL) and interior standard (45.0 dBA CNEL).[2] The remaining residential uses on-site would be shielded from traffic noise.

As the City's exterior and interior noise standards would be exceeded at the project site as a result of mobile traffic noise along Baker Street, noise attenuation measures are required. According to the Noise Impact Analysis, the project would include a six-foot masonry wall along the site perimeter to attenuate traffic noise levels to below City standards; refer to Exhibit 4.12-1, *Noise Barrier Locations*. In addition, to attenuate interior noise levels to below 45.0 dBA CNEL at the front row residences along Baker Street (Units 1 through 4, and 56), the project would be required to provide dual-paned windows, and a supplemental ventilation system with a specified fraction of fresh make-up air (refer to Mitigation Measure NOI-2). In addition, Mitigation Measure NOI-3 requires the project Applicant to submit a final acoustical report to the City detailing that the development would be sound-attenuated against existing and projected noise levels to meet City interior and exterior noise standards. With construction of the six-foot perimeter wall and compliance with Mitigation Measures NOI-2 and NOI-3, the City's exterior and interior noise standards would not be exceeded by mobile traffic noise at the project site. A less than significant impact would occur in this regard.

Stationary Source Noise

A Newport-Mesa Unified School District building adjoins the project site to the east, which operates a refrigeration condenser unit and fan approximately 5-10 feet from the project site boundary. The condenser appears to be an older model without modern noise reduction features, which results in high noise levels while it is operating. In addition, a food preparation facility located at the Newport-Mesa Unified School District building to the east has an elevated system of ventilation louvers in close proximity to the project site. As compared with the refrigeration condenser unit noise, the ventilation noise is lower in decibel levels, but substantially above ground level. The louvers' location precludes the use of typical physical shielding for noise reduction, such as a wall.

[2] A 20 dBA noise attenuation rate was utilized to determine the interior noise levels for standard construction per the U.S. Department of Housing and Urban Development, *The Noise Guidebook*, March 2009, page 14. Receptors the exposed to noise levels beyond the City's noise standards would be required to use heating, ventilation, and air conditioning (HVAC) to ensure a "closed window" condition is satisfied.



Source: C&V Consulting, Inc., *Preliminary Site Plan*; dated April 28, 2016.

NOT TO SCALE

Michael Baker INTERNATIONAL

06/16 • JN 153149

929 BAKER STREET RESIDENTIAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Noise Barrier Locations

Exhibit 4.12-1

The City's Noise Ordinance regulates the allowable noise level crossing a shared property line for exterior areas and interior for residential uses; refer to Table 4.12-3. The Noise Ordinance's allowable noise levels in Table 4.12-3 are expressed as a level not to be exceeded for more than 30 minutes per hour with some allowable excursions above the baseline. The Newport-Mesa Unified School District property's refrigeration condenser unit operates and generates noise for more than 30 minutes and can run for several hours in a row; therefore, the basic standards in Table 4.12-3 apply without considering any allowable deviations. A 22-hour noise measurement at the property line closest to the condenser unit and in proximity to the vents was conducted as part of the Noise Impact Analysis. The 30-minute levels and the instantaneous noise levels exceed the allowable exterior noise standard for almost every hour monitored as shown in Table 4.12-5, *Refrigeration Condenser Unit Noise Measurement*.

Table 4.12-5
Refrigeration Condenser Unit Noise Measurement

Time Interval	Average Level (dBA)	Max (dBA)
12:00-13:00	76	76
13:00-14:00	76	76
14:00-15:00	76	76
15:00-16:00	76	76
16:00-17:00	76	77
17:00-18:00	76	77
18:00-19:00	76	77
19:00-20:00	61	77
20:00-21:00	76	77
21:00-22:00	61	77
22:00-23:00	60	77
23:00-24:00	60	77
0:00-1:00	59	77
1:00-2:00	60	77
2:00-3:00	52	67
3:00-4:00	50	60
4:00-5:00	59	77
5:00:6:00	62	77
6:00-7:00	64	78
7:00-8:00	77	77
8:00-9:00	76	78
9:00-10:00	76	77

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

Source: Hans Giroux & Associates, *929 Baker Street, Costa Mesa Noise Letter,* dated February 16, 2016; refer to Appendix 8.5, *Noise Impact Analysis*.

As shown in Table 4.12-5, the Newport-Mesa Unified School District property's refrigeration condenser unit generates noise levels that would exceed the City's standards for residential uses at the project site. Specifically, the proposed residential uses along the eastern property line of the project site would be exposed to noise levels in exceedance of City standards. As such, noise attenuation measures were considered.

According to the Noise Impact Analysis, replacement of the noise-producing equipment (at the Newport-Mesa Unified School District building to the east) and erection of a noise wall are sufficient mitigation measures to reduce the noise to acceptable levels (Mitigation Measure NOI-2). Modern large condenser fans are 14 dBA quieter than the existing refrigeration condenser unit at the Newport-Mesa Unified School District property to the east. In addition, replacement of the existing simple slatted louvers by aluminum acoustic louvers at the Newport-Mesa Unified School District property to the east would substantially reduce the level of excess noise (typically 10-15 dBA). The combination of updating the refrigeration condenser unit and ventilation louvers at the Newport-Mesa Unified School District property, as well as the construction of an 8-foot high perimeter wall at the rear of these units (units 41 through 48) would meet the City's Noise Ordinance for residential units and a less than significant impact would occur.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result with compliance with Standard Condition 4.12-1, and Mitigation Measures NOI-1 through NOI-3.

Standard Conditions:

SC 4.12-1 Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between the hours of 7:00 am and 7:00 pm on Mondays through Fridays; to between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays; and shall not be permitted at any time on Sundays or federal holidays.

Mitigation Measures:

NOI-1 Prior to Grading Permit issuance, the project Applicant shall demonstrate, to the satisfaction of the City of Costa Mesa Development Services Director that the project complies with the following:

- Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.
- Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences, convalescent homes, etc.), to the extent feasible.
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.

NOI-2 After the plot plans and architectural drawings have been developed, and prior to the issuance of building permits, the project Applicant shall demonstrate, to the satisfaction of the City of Costa Mesa Building Official that the proposed project plans and specifications include the following noise attenuation measures:

- A six-foot noise barrier along Units 1 through 4 and 56 (as depicted in Exhibit 4.12-1).

- An eight-foot noise barrier along Units 41 through 48 (as depicted in Exhibit 4.12-1).

- Units 1 through 4, and 56 shall contain dual-paned windows (as required by code), and shall include fresh air duct capable of providing 30 cubic feet per minute (CFM) of air with the duct opening oriented away from the primary noise source.

- The project Applicant shall work with the Newport-Mesa School District to replace the existing refrigeration condenser unit with a sound power rating of 7.6 or less, or that the noise levels coming from the noise-generating equipment would be reduced by 14 dBA.

- The project Applicant shall work with the Newport-Mesa School District to replace the existing slatted louvers with aluminum acoustic louvers.

NOI-3 Prior to the issuance of Certificate of Occupancy, the project Applicant shall submit a final acoustical report prepared to the satisfaction of the City of Costa Mesa Development Services Director. The report shall show that the development would be sound-attenuated against present and projected noise levels to meet City interior and exterior noise standards. In order to demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures.

b) ***Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?***

Less Than Significant Impact. Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The vibration produced by construction equipment is illustrated in Table 4.12-6, *Typical Vibration Levels for Construction Equipment*.

Table 4.12-6
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 50 feet (inches/second)
Large bulldozer	0.089	0.031
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001
Jackhammer	0.035	0.012

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

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

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

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

The nearest structures to the project site include an adjoining residential use to the west. Groundborne vibration decreases rapidly with distance. As indicated in Table 4.12-6, based on the Federal Transit Administration (FTA) data, vibration velocities from typical heavy construction equipment operation that would be used during project construction range from 0.003 to 0.089 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity, and would range from 0.001 to 0.031 inch-per-second PPV at 50 feet. With regard to the proposed project, groundborne vibration would be generated primarily during grading activities on-site and by off-site haul-truck travel. Although the existing residential uses are located within 10 feet of the project site, the proposed construction activities would not be capable of exceeding the 0.2 inch-per-second PPV significance threshold for vibration, as construction activities would be limited and would not be concentrated within 25 feet of the adjacent structures for an extended period of time. Therefore, vibration impacts would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) ***A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?***

Less Than Significant Impact With Mitigation Incorporated. Refer to Impact Statement 4.12(a), Long-Term Operational Impacts.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result with implementation of Mitigation Measures NOI-2 and NOI-3.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: Refer to Mitigation Measures NOI-2 and NOI-3.

d) ***A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?***

Less Than Significant Impact With Mitigation Incorporated. Refer to Impact Statements 4.12(a) and 4.12(b) above.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result with compliance with Standard Condition 4.12-1, and Mitigation Measures NOI-1 through NOI-3.

Standard Conditions: Refer to SC 4.12-1.

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

e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. The nearest airport to the project site is the John Wayne Airport, located approximately 1.50 miles east of the project site. However, according to the *Land Use Plan for John Wayne Airport*, the project site is not located within any airport noise contour zones.[3] Therefore, project implementation would not expose people residing or working in the project area to excessive noise levels associated with aircraft.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, no impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[3] John Wayne Airport, Orange County, J*ohn Wayne Airport 2015 Annual 60, 65, 70, and 75 CNEL Noise Contours*, http://www.ocair.com/reportspublications/AccessNoise/cnelnoisecontours/2015.pdf, accessed April 28, 2016.

f) ***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?***

No Impact. The project site is not located within the vicinity of a private airstrip or related facilities. Therefore, no impacts would occur in this regard.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, no impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

4.13 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

a) ***Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

Less Than Significant Impact. The project involves the demolition of a self-storage building and the construction of 56 new single-family residential units. Therefore, project implementation could induce direct population growth in the City through the development of new residences.

As of January 2016, the average number of persons per household in the City of Costa Mesa is 2.74 persons per household.[1] Based on an estimate of 2.74 persons per unit, the 56 dwelling units proposed by the project could generate an increase in the City's population of approximately 154 persons. The potential population growth associated with the project would represent approximately 0.13 percent of the City's current population of 114,603 persons.[2]

Potential growth-inducing impacts are also assessed based on a project's consistency with adopted plans that have addressed growth management from a local and regional standpoint. The Southern California Association of Government's (SCAG) growth forecasts estimate the City's population to reach 116,400 persons by 2040, representing an increase of 1,797 persons between 2015 and 2040.[3] The project's total population generation (154 persons) represents approximately 0.13 percent of the 2040 population anticipated for the City by SCAG. SCAG's regional growth projections are based upon long-range development assumptions (i.e., General Plans) of the relevant jurisdiction. Thus, the proposed project would not substantially induce population growth due to the increase in on-site residents, as the growth that would occur at the project site is consistent with growth already anticipated to occur in the City by the General Plan. Therefore, the proposed project would result in a less than significant impact regarding population growth.

[1] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011- 2016*, May 1, 2016.
[2] Ibid.
[3] Southern California Association of Governments, *2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction*, April 2016.

Site Plan Alternative

The Site Plan Alternative would result in the same population increase as the proposed project. Thus, similar to the proposed project, less than significant impacts regarding population growth would occur.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

b) ***Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?***

No Impact. Implementation of the proposed project would demolish the existing on-site self-storage facility. No housing exists on the project site. Therefore, project implementation would not displace any existing housing units or people.

Site Plan Alternative

As the Site Plan Alternative would occupy the same site as the proposed project, no impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) ***Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?***

No Impact. Refer to Response 4.13(b).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

4.14 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1) Fire protection?			✓	
2) Police protection?			✓	
3) Schools?			✓	
4) Parks?			✓	
5) Other public facilities?			✓	

a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:***

1) Fire protection?

Less Than Significant Impact. The Costa Mesa Fire Department (CMFD) provides fire protection and emergency response services to the City, including the project site. The CMFD is comprised of three divisions: Fire Administration; Fire/Rescue/Emergency Medical Services; and Fire Prevention/Community Risk Reduction. The Fire/Rescue/Emergency Medical Services Division staffs six fire stations, 24-hours a day, 7 days a week. The CMFD is currently budgeted for 84 full-time staff members, 78 sworn positions, and 6 non-sworn positions.[1] Part-time staffing consists of 3.25 full-time equivalents to serve within the three divisions.[2] The Fire Prevention/Community Risk Reduction Division provides public education, emergency management, life safety planning and inspections, and code enforcement services. The CMFD has three paramedic assessment units (PAU), which are operated by a captain, an engineer, and a firefighter/paramedic, one paramedic engine company with four personnel[3], rescue ambulances

[1] City of Costa Mesa, *About Fire & Rescue*, http://www.costamesaca.gov/index.aspx?page=184, accessed April 20, 2016.
[2] Ibid.
[3] City of Costa Mesa, *Paramedic Engine Company,* http://www.costamesaca.gov/index.aspx?page=1474, accessed April 20, 2016.

staffed with two firefighter/paramedics[4], a 100-foot aerial ladder truck company[5], an emergency command vehicle staffed daily by a battalion chief[6], and an urban search and rescue vehicle.[7] The closest station to the project is the Baker Fire Station, located at 800 Baker Street, is approximately 0.33 mile east of the project site.

The proposed project is not expected to result in the construction of new or physically altered fire facilities. The CMFD's goal is to respond to 80 percent of emergency calls for service requests within five minutes.[8] The proposed subdivision would include one ingress/egress driveway at Baker Street. The project proposes a primary interior street designed with a 25-foot width and secondary streets designed with 24-foot widths. The project's design would be subject to compliance with the requirements set forth in the 2013 California Fire Code and all incorporated amendments, and the 2013 International Fire Code, as noted in Municipal Code Title 7, *Fire Protection and Prevention*. The project plans would be reviewed and approved by the Costa Mesa Building and Fire Departments, which would ensure adequate emergency access, fire hydrant availability, and compliance with all applicable codes and standards. The proposed project would include features such as fire-resistant construction materials, fire alarm/sprinkler systems, fire hydrants, and adequate fire access for emergency vehicles. Upon compliance with existing City Municipal Code requirements and Standard Conditions 4.14-1 through 4.14-7, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result with compliance with Federal, State, and local laws and regulations as well as implementation of the existing City Municipal Code requirements and Standard Conditions 4.14-1 through 4.14-7 (similar to the proposed project).

Standard Conditions:

SC 4.14-1 Prior to the issuance of a Building Permit, the City of Costa Mesa Fire Department shall review and approve the developer's project design features to assess compliance with the California Building Code and California Fire Code.

SC 4.14-2 Projections, including eaves, shall be one-hour fire resistive construction, heavy timber or of noncombustible material if they project into the 5 feet setback area from the property line. They may project a maximum of 12 inches beyond the 3 feet setback. California Residential Code Tables R302.1(1) and R302.1(2).

SC 4.14-3 The final plan for development of the project shall provide sufficient capacity for fire flows required by the City of Costa Mesa Fire Department.

[4] City of Costa Mesa, *Rescue Ambulance,* http://www.costamesaca.gov/index.aspx?page=1770, accessed April 20, 2016.
[5] City of Costa Mesa, *100-Foot Aerial Ladder Truck,* http://www.costamesaca.gov/index.aspx?page=1452, accessed April 20, 2016.
[6] City of Costa Mesa, *Emergency Command Vehicle,* http://www.costamesaca.gov/index.aspx?page=1455, accessed April 20, 2016.
[7] City of Costa Mesa, *Urban Search & Rescue,* http://www.costamesaca.gov/index.aspx?page=1453, accessed April 20, 2016.
[8] City of Costa Mesa, *City of Costa Mesa 2015-2035 Draft General Plan*, March 4, 2016.

SC 4.14-4 Vehicular access shall be provided and maintained serviceable throughout construction to all required fire hydrants.

SC 4.14-5 The project shall provide approved smoke detectors to be installed in accordance with the latest edition of the Uniform Fire Code.

SC 4.14-6 The project shall provide a fire alarm system.

SC 4.14-7 The project shall provide individual numeric signage for proposed residences with minimum 6 inches height.

Mitigation Measures: No mitigation measures are required.

2) Police protection?

Less Than Significant Impact. The Costa Mesa Police Department (CMPD) provides police protection services to the City, including the project site. The CMPD operates out of their headquarters, located at 99 Fair Drive, which is located approximately 1.07 miles northeast of the project site. The CMPD is comprised of three divisions, Administration, Field Operations, and Support Services, and is currently staffed by 196 full-time positions (130 are sworn and 66 are civilians), and various part-time positions. In addition, the CMPD currently contracts with the Huntington Beach Police Department for airborne law enforcement patrols and related services.[9] The CMPD implemented geographic-based policing, which divides the City into two areas, based upon calls for service and geographical boundaries. The project site is located within Patrol Area 2, overseen by the Field Operations captain and an area commander.[10]

The project is expected to result in similar service calls typical of a residential neighborhood (similar to that in the area). It is not expected that long-term operation of the project would require new or physically altered police facilities, the construction of which could cause significant environmental impacts. The project would be subject to compliance with Standard Condition 4.14-8, in order to enhance police protection services. In addition, the project would be subject to site plan review by the City Building Department and CMPD to ensure that it meets City safety requirements. Thus, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result with compliance with Standard Condition 4.14-8 (similar to the proposed project).

Standard Conditions:

SC 4.14-8 As final building plans are submitted to the City of Costa Mesa for review and approval, the Costa Mesa Police Department shall review all plans for the purpose of ensuring that design requirements are incorporated into the building design to increase safety and avoid unsafe conditions. These measures focus on security measures are recommended by the Police Department, including but not limited to, the following:

[9] City of Costa Mesa, *City of Costa Mesa 2015-2035 Draft General Plan*, March 4, 2016.
[10] City of Costa Mesa, *Patrol Area 2,* http://38.106.5.76/index.aspx?page=342, accessed April 22, 2016.

- Lighting shall be provided in open areas and parking lots.
- Required building address numbers shall be readily apparent from the street and rooftop building identification shall be readily apparent, if necessary, from police helicopters for emergency response agencies.
- Landscaping requirements (e.g., minimize use of hedges, use of low height shrubs for greater visibility).
- Emergency vehicle parking areas shall be designated within proximity to buildings.
- Prior to the issuance of a Building Permit, the City of Costa Mesa Police Department shall review and approve the developer's project design features to satisfy local requirements. The Applicant shall then pay the appropriate fee in effect to mitigate the project's proportionate impact to additional demands on police protection services, if any.

Mitigation Measures: No mitigation measures are required.

3) Schools?

Less Than Significant Impact. The project site is located within the Newport Mesa Unified School District (NMUSD) (served by Sonora Elementary School [located at 966 Sonora Road], Davis Elementary School [located at 1050 Arlington Drive], and Costa Mesa High School [located at 2650 Fairview Road] with school enrollments of approximately 527 students, 569 students, and 1,779 students, respectively).[11]

The project would result in an increase in the demand for school facilities. Based on a student generation factor of 0.26 students per dwelling unit, the proposed 56 residential units could generate a total of 15 students. The project would be subject to the requirements of Assembly Bill (AB) 2926 and Senate Bill (SB) 50, which allow school districts to collect impact fees from developers of new residential projects. The NMUSD collects $1.84 per square foot of residential uses from developers.[12] According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." The project Applicant would be subject to payment of this development fee pursuant to Standard Condition 4.14-9, which would fully mitigate any potential impact to NMUSD school facilities. Thus, upon payment of required fees by the project Applicant consistent with existing State requirements, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result with compliance with Standard Condition 4.14-9 (similar to the proposed project).

[11] Newport-Mesa Unified School District, *School Accountability Report Cards,* http://web.nmusd.us/sarc, accessed April 25, 2016.

[12] City of Costa Mesa, *Development Fees Information,* http://www.costamesaca.gov/modules/showdocument.aspx?documentid=218, accessed April 25, 2016.

Standard Conditions:

SC 4.14-9 Prior to issuance of building permits, the Developer shall pay applicable school impact fees for residential development.

Mitigation Measures: No mitigation measures are required.

4) Parks?

Less Than Significant Impact. The nearest public parks to the project site are Paularino Park, located approximately 0.34-mile northwest of the project site, and Shiffer Park, located approximately 0.43-mile northeast of the project site. The project would directly increase population in the project area by 154 persons. This increase in population could result in an increased demand for parks. The City has a park standard of 4.26 acres of parkland for every 1,000 residents. Based on the City's parkland demand factor, project implementation would generate a demand for approximately 0.66 acres of parkland. The project would construct a private park on-site (approximately 0.11 acre), which may offset parkland impacts. Therefore, the project Applicant would be required to pay applicable development impact fees pursuant to Standard Condition 4.14-10, which would mitigate any potential impact to park facilities. Thus, upon compliance with the payment of parkland development fees, impacts in this regard would be reduced to less than significant levels.

Site Plan Alternative

Development of the Site Plan Alternative would result in the construction of a slightly smaller on-site park use (0.10 acre instead of the project's 0.11 acre park). However, similar to the proposed project, compliance with Standard Condition 4.14-10 would reduce impacts in this regard to less than significant levels.

Standard Conditions:

SC 4.14-10 Prior to issuance of building permits and/or final occupancy, the Developer shall pay applicable parkland impact fees for residential development.

Mitigation Measures: No mitigation measures are required.

5) Other public facilities?

Less Than Significant Impact. Other public services that could potentially be impacted by the proposed project include public libraries. There are three public libraries within the City of Costa Mesa. The nearest public library to the project site is the Costa Mesa Technology Library which is located 1.55 miles southwest at 2263 Fairview Avenue. A facility needs assessment was prepared for the Costa Mesa Public Library system that concluded a new 20,000-square-foot building (which would increase items in the collection from 68,000 to 95,000 items) would be required to meet the long-term demands of the service area.[13] Currently, a new library facility is tentatively planned at the Dungan Library, which would be constructed as part of the new

[13] City of Costa Mesa and MIG, Inc., *Draft Environmental Impact Report for the 2015-2015 General Plan,* March 4, 2016.

community center (replacing facilities at their current location).[14] As described in Response 4.13(a), the proposed project would result in a citywide population increase of approximately 0.14 percent. This increase in population would have a minimal impact on public library services. Thus, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[14] City of Costa Mesa, *City of Costa Mesa 2015-2035 Draft General Plan*, March 4, 2016.

4.15 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?			✓	

a) ***Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

Less Than Significant Impact. Refer to Response 4.14(a)(4).

Standard Conditions: Refer to SC 4.14-10.

Mitigation Measures: No mitigation measures are required.

b) ***Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?***

Less Than Significant Impact. The proposed project provides a 0.11 acre park. The proposed park feature would include a play structure, rubberized play surface, a pet waste dispenser, decorative benches, picnic tables, and pedestal-type BBQs. As recreational space amenities would be provided to serve the residents, there would be no need for the construction or expansion of recreational facilities. No impacts to recreation beyond those described in Response 4.14(a)(4) are anticipated. A less than significant impact would occur in this regard.

Site Plan Alternative

Development of the Site Plan Alternative would result in the construction of a slightly smaller on-site park use (0.10 acre instead of the project's 0.11 acre park). However, similar to the proposed project, no impacts to recreation beyond those described in Response 4.14(a)(4) are anticipated. A less than significant impact would occur in this regard.

Standard Conditions: Refer to SC 4.14-10.

Mitigation Measures: No mitigation measures are required.

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4.16 TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		✓		
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				✓
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				✓
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e. Result in inadequate emergency access?			✓	
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓	

This section is based upon the *De Nova Homes Baker Street Residential Project Traffic Impact Analysis* (Traffic Impact Analysis), prepared by Transpo Group (dated January 2016); refer to Appendix 8.6, *Traffic Impact Analysis*. The purpose of the Traffic Impact Analysis is to evaluate potential project impacts related to traffic and circulation in the vicinity of the project site. The evaluation considers impacts on local intersections and regional transportation facilities. The following analysis scenarios are evaluated in this section:

- Existing Conditions;
- Forecast Existing With Project Conditions;
- Forecast Opening Year 2017 Without Project Conditions; and
- Forecast Opening Year 2017 With Project Conditions.

STUDY AREA

This analysis focuses on the weekday a.m. (7:00 a.m. to 9:00 a.m.) peak period and the p.m. (4:00 p.m. to 6:00 p.m.) peak period. These periods represent the highest cumulative total traffic for the adjacent street system. The study intersections, which are mapped on Exhibit 4.16-1, *Study Area Intersections*, include the following:

1. Milbro Street/Baker Street;
2. Bear Street/Baker Street;
3. Bear Street/State Route 73 (SR-73) Southbound Ramps; and
4. Bear Street/SR-73 Northbound Ramps.

CITY ANALYSIS METHODOLOGY

Signalized Intersections

The operational characteristics of an intersection are determined by calculating the intersection's level of service (LOS). The intersection as a whole and its individual turning movements can be described alphabetically with a range of levels of service (A through F), with LOS A indicating free-flow traffic and LOS F indicating extreme congestion and long vehicle delays. At signalized intersections, LOS was calculated using the Intersection Capacity Utilization (ICU) methodology. LOS at signalized intersections is measured based on the sum of the volume to capacity (v/c) ratio of the critical movements. Table 4.16-1, *Level of Service Criteria for Signalized Intersections Using ICU Methodology*, shows the relationship between v/c ratio and LOS for signalized intersections.

Table 4.16-1
Level of Service Criteria for Signalized Intersections Using ICU Methodology

Level of Service	V/C Ratio	General Description (Signalized Intersections)
A	≤ 0.60	Free Flow
B	0.61 to ≤ 0.70	Stable Flow (slight delays)
C	0.71 to ≤ 0.80	Stable Flow (acceptable delays)
D	0.81 to ≤ 0.90	Approaching unstable flow (tolerable delay, occasional wait through more than one signal cycle before proceeding)
E	0.91 to ≤ 1.00	Unstable Flow (intolerable delay)
F	> 1.00	Forced flow (jammed)
Notes: V/C Ratio = Volume to Capacity Ratio.		
Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.		

For the intersections that are also under the jurisdiction of Caltrans (the SR-73 ramps at Bear Street), the LOS was also calculated using the Highway Capacity Manual (HCM) 2010 methodology. In this method, LOS is defined in terms of a weighted average control delay for the entire intersection. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday p.m. peak hour).

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis*, dated January 2016.

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929 BAKER STREET RESIDENTIAL
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Study Area Intersections

Exhibit 4.16-1

Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 4.16-2, *Relationship Between Delay and LOS at Signalized Intersections*, summarizes the LOS criteria for signalized intersections, as described in the HCM 2010.

Table 4.16-2
Relationship Between Delay and LOS at Signalized Intersections

Level of Service[1]	Average Control Delay (seconds/vehicle)	General Description (Signalized Intersections)
A	≤ 10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable Flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasional wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable Flow (intolerable delay)
F	>80	Forced flow (congested and queues fail to clear)

Notes:
1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Unsignalized Intersections

LOS at unsignalized intersections is classified by two intersection types: all-way stop-controlled and two-way stop-controlled. LOS for unsignalized intersections was calculated using the HCM 2010 methodology. All-way, stop-controlled intersection LOS is expressed in terms of the average vehicle delay of all of the movements, much like that of a signalized intersection. Two-way, stop-controlled intersection LOS is defined in terms of the average vehicle delay of an individual movement(s). This is because the performance of a two-way, stop-controlled intersection is more closely reflected in terms of its individual movements, rather than its performance overall. For this reason, LOS for a two-way, stop-controlled intersection is defined in terms of its individual movements. With this in mind, total average vehicle delay (i.e., average delay of all movements) for a two-way, stop-controlled intersection should be viewed with discretion. Table 4.16-3, *Level of Service Criteria for Unsignalized Intersections*, shows the relationship between vehicle delay and LOS for unsignalized intersections (both all-way and two-way, stop-controlled).

Future Traffic Forecasts

Opening Year (2017) without-project traffic volumes were determined by adding a growth rate of one percent per year to the existing traffic volumes, plus traffic from approved and pending (cumulative) projects in the City of Costa Mesa.

Table 4.16-3
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Significance Criteria

The City of Costa Mesa, in the General Plan Circulation Element, has adopted a performance standard of LOS D (peak hour ICU less than or equal to 0.90) for all intersections under the sole control of the City. A significant impact would occur if the project were to cause an intersection to deteriorate from satisfactory to unsatisfactory LOS, or would add 0.01 to the ICU at an intersection already operating at LOS E or F in the without-project condition.

EXISTING ROADWAY SYSTEM

The characteristics of the roadway system in the vicinity of the project site are depicted in Table 4.16-4, *Study Area Existing Street System Summary*. Traffic control and geometrics at study area intersections is illustrated in Figure 3, *Existing Traffic Controls and Geometrics*, of the Traffic Impact Analysis. A bus stop is located adjacent to the project site and is served by Orange County Transportation Authority (OCTA) bus routes 173 and 55. Route 173 provides service between downtown Huntington Beach and South Coast Plaza. Route 55 provides service between Fashion Island and the Santa Ana train depot.

Table 4.16-4
Study Area Existing Street System Summary

Roadway	Street Classification	Posted Speed Limit	Number of Travel Lanes	Parking	Sidewalks	Bicycle Lanes
Baker Street west of Bear Street	Primary Arterial	40 mph	4[1]	No	Yes	Yes
Baker Street east of Bear Street	Major Arterial	40 mph	4	No	Yes	Yes
Baker Street north of Baker Street	Major Arterial	40 mph	4	No	Yes	Yes
Baker Street south of Baker Street	Collector	30 mph	2	No	Yes	No
Milbro Street	Local Street	25 mph	2	Yes	Yes	No

mph = miles per hour

Notes:
1. Baker Street has 5 lanes between Milbro Street and Bear Street.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

EXISTING TRAFFIC VOLUMES

Existing turning movement counts at the study intersections were conducted in November 2015. The existing condition reflects those land uses that were built and occupied at the time of the traffic counts. This includes the existing self-storage facility that currently occupies the project site. Existing weekday a.m. and p.m. peak hour traffic volumes are summarized on Figure 4, *Existing Peak Hour Traffic Volumes*, of the Traffic Impact Analysis and were used to evaluate existing traffic conditions.

Opening Year (2017) Traffic Volumes

As noted in the methodology section, project Opening Year traffic volumes were forecast by adding a growth rate of one percent per year to the existing traffic volumes. City of Costa Mesa staff provided a list of 35 cumulative projects throughout the City for use in developing the Opening Year traffic volumes. The list of projects provided by the City can be found in Appendix B, *Cumulative Project List from City*, of the Traffic Impact Analysis. The project description and location of each project were reviewed and it was determined that the following five projects have the potential to add traffic to the project study area:

- 125 East Baker Street (240 apartment dwelling units);
- 789 Paularino Avenue (19 detached condominium dwelling units);
- 2626 Harbor Boulevard (33 single-family detached dwelling units);
- 585-595 Anton Boulevard (484 condominium dwelling units); and
- 3350 Avenue of The Arts (100 condominium dwelling units).

It should be noted that the 585-595 Anton Boulevard project is entitled for either 393 apartment dwelling units or 484 condominium dwelling units. The trip generation was calculated using 484 condominium dwelling units as it would generate more trips than 393 apartments. The trip generation for the cumulative development projects is shown in Table 4.16-5, *Cumulative Projects Trip Generation*. As shown in Table 4.16-5, the cumulative projects would generate 5,414 daily trips with 412 trips occurring during the a.m. peak hour and 495 trips occurring during the p.m. peak hour.

Existing Conditions Peak Hour Intersection Level of Service

Table 4.16-6, *Existing Conditions AM/PM Peak Hour Intersection LOS (ICU Methodology)*, summarizes existing conditions a.m. and p.m. peak hour LOS of the study intersections using the ICU methodology. Table 4.16-7, *Existing Conditions AM/PM Peak Hour Intersection LOS (HCM Methodology)*, summarizes existing conditions a.m. and p.m. peak hour LOS of the study intersections using the HCM methodology. As depicted in Table 4.16-6 and Table 4.16-7, all study intersections currently operate at satisfactory LOS D or better during both the a.m. and p.m. peak hours.

Table 4.16-5
Cumulative Projects Trip Generation

Land Use *(ITE Code)*	Units	Daily	AM Peak Hour Trip Rates			PM Peak Hour Trip Rates		
			In	Out	Total	In	Out	Total
Trip Rates								
Single-Family Detached Residential (210)	DU	9.52	0.19	0.56	0.75	0.63	0.37	1.00
Apartment (220)	DU	6.65	0.10	0.41	0.51	0.40	0.22	0.62
Condominium (230)	DU	5.81	0.07	0.37	0.44	0.35	0.17	0.52
Cumulative Projects Trip Generation								
125 East Baker Street (Apartments)	240 DU	1,596	21	98	112	97	52	149
789 Paularino Avenue (Detached Condominiums)	19 DU	110	1	7	8	7	3	10
2626 Harbor Blvd (Single-Family Detached)	33 DU	314	6	19	25	21	12	33
585-595 Anton Blvd (Condominiums)[1]	484 DU	2,812	36	177	213	169	83	252
3350 Avenue of The Arts (Condominiums)	100 DU	581	7	37	44	35	17	52
Total Trip Generation	--	*5,414*	*76*	*337*	*412*	*328*	*168*	*495*

Notes: DU = dwelling units
1. Entitled for either 393 apartments or 484 condominiums. Trip Generation was calculated sing 484 condominiums as it generates more trips than apartments.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Table 4.16-6
Existing Conditions AM/PM Peak Hour Intersection LOS (ICU Methodology)

Study Intersection		Existing Conditions			
		AM Peak Hour		PM Peak Hour	
		LOS[1]	V/C[2]	LOS[1]	V/C[2]
1	Milbro Street/Baker Street	B	0.619	A	0.521
2	Bear Street/Baker Street	C	0.737	D	0.812
3	Bear Street/SR-73 SB Ramps	B	0.685	B	0.632
4	Bear Street/SR-73 SB Ramps	B	0.651	C	0.789

Notes:
1. Level of Service, based on Intersection Capacity Utilization (ICU).
2. Volume to Capacity Ratio.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016.

Table 4.16-7
Existing Conditions AM/PM Peak Hour Intersection LOS (HCM Methodology)

Study Intersection		Existing Conditions			
		AM Peak Hour		PM Peak Hour	
		LOS[1]	Delay[2]	LOS[1]	Delay
3	Bear Street/SR-73 SB Ramps	B	12.1	B	19.3
4	Bear Street/SR-73 SB Ramps	B	12.5	D	40.0

Notes:
1. HCM 2010 does not run signalized LOS for intersections with shared lanes. Therefore, LOS at the SR-73/Bear Street Ramps is evaluated using HCM 2000 for signalized intersections.
2. Delay in seconds per vehicle.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

a) ***Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?***

Less Than Significant Impact With Mitigation Incorporated. Project-related impacts on the surrounding roadway system are analyzed below.

Project Trip Generation

The vehicle trip generation for the project was developed using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation (9th Edition, 2012). The project would replace the existing self-storage facility. Because the self-storage facility is currently in operation and adding trips to the surrounding roadway network, the vehicle trips generated by the self-storage facility were subtracted from the trip generation of the proposed project.

Table 4.16-8, *Project Trip Generation*, shows the trip generation of the project during the a.m. and p.m. peak hours and on a daily basis, as well as the existing self-storage facility trip generation and the net new trips expected to be generated by the project. The General Plan allows up to 12 dwelling units per acre on the project site. The project would construct approximately 11.89 dwelling units per acre. As a result, the trip generation for the maximum use allowed under the General Plan is approximately the same as the project trip generation shown in Table 4.16-8. As shown in Table 4.16-8, the project would generate 366 net new daily, 30 net new a.m. peak hour, and 29 net new p.m. peak hour vehicle trips.

Table 4.16-8
Project Trip Generation

Land Use *(ITE Code)*	Units	Daily	AM Peak Hour Trip Rates			PM Peak Hour Trip Rates		
			In	Out	Total	In	Out	Total
Trip Rates								
Single-Family Detached Residential (210)	DU	9.52	0.188	0.563	0.750	0.630	0.370	1.000
Self-Storage (151)	Ac	35.430	1.161	1.419	2.580	1.785	1.785	3.570
Project Trip Generation								
Proposed Residential Project	56 DU	533	11	32	42	35	21	56
Existing Self-Storage Facility	4.71 Ac	-167	-5	-7	-12	-8	-8	-17
*Total Net Trip Generation**	--	*366*	*5*	*25*	*30*	*27*	*12*	*39*

Notes: DU = dwelling units; Ac = Acre, * = Totals may be off due to rounding.
Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Trip Distribution and Assignment

Project trips were distributed to the study area intersections using logical travel paths between the project and local and regional destinations. The forecast trip distribution is shown in Figure 6, *Project Trip Distribution*, of the Traffic Impact Analysis. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location. The project trip assignment is shown in Figure 7, *Project Trip Assignment*, of the Traffic Impact Analysis.

Traffic Volumes

Existing and Opening Year (2017) with-project traffic volumes were determined by adding the project trips to the Existing and Opening Year (2017) without-project traffic volumes. Figure 8, *Existing With-Project Peak Hour Traffic Volumes*, of the Traffic Impact Analysis shows the Existing Plus Project weekday a.m. and p.m. peak hour traffic volumes at the study intersections.

Forecast Existing With-Project Intersection Operations

An intersection operations analysis was conducted for the study area to evaluate the Existing Plus Project weekday a.m. and p.m. peak hour conditions with the project. Intersection operations were calculated using the LOS methodology described previously. Table 4.16-9, *Existing and Existing Plus Project Weekday Peak Hour Intersection LOS (ICU Methodology)*, and Table 4.16-10, *Existing and Existing Plus Project Weekday Peak Hour Intersection LOS (HCM Methodology)*, provide a comparison between the Existing and Existing Plus Project conditions for the weekday a.m. and p.m. peak hours. Detailed LOS worksheets are included in Appendix C, *LOS Worksheets*, of the Traffic Impact Analysis.

Table 4.16-9
Existing and Existing Plus Project Weekday Peak Hour Intersection LOS
(ICU Methodology)

Study Intersection		Existing Conditions				Existing With Project				V/C Change	
		AM Peak		PM Peak		AM Peak Hour		PM Peak Hour		AM	PM
		LOS[1]	V/C[2]	LOS[1]	V/C[2]	LOS[1]	V/C[2]	LOS[1]	V/C[2]		
1	Milbro Street/Baker Street	B	0.619	A	0.521	B	0.619	A	0.521	0.000	0.000
2	Bear Street/Baker Street	C	0.737	D	0.812	C	0.740	D	0.817	0.003	0.005
3	Bear Street/SR-73 SB Ramps	B	0.685	B	0.632	B	0.690	B	0.636	0.005	0.004
4	Bear Street/SR-73 SB Ramps	B	0.651	C	0.789	B	0.655	C	0.791	0.004	0.020

Notes:
1. Level of Service, based on Intersection Capacity Utilization (ICU).
2. Volume to Capacity Ratio.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Table 4.16-10
Existing and Existing Plus Project Weekday Peak Hour Intersection LOS
(HCM Methodology)

Study Intersection		Existing Conditions				Existing With Project			
		AM Peak		PM Peak		AM Peak Hour		PM Peak Hour	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
3	Bear Street/SR-73 SB Ramps	B	12.1	B	19.3	B	12.4	C	20.2
4	Bear Street/SR-73 SB Ramps	B	12.5	C	40.0	B	12.9	D	40.8

Notes:
1. HCM 2010 does not run signalized LOS for intersections with shared lanes. Therefore, LOS at the SR-73/Bear Street Ramps is evaluated using HCM 2000 for signalized intersections.
2. Delay in seconds per vehicle.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

As shown in Table 4.16-9 and Table 4.16-10, all study intersections currently operate satisfactorily at LOS D or better during the a.m. and p.m. peak hours and are forecast to continue to operate at LOS D or better during the weekday a.m. and p.m. peak hours with the addition of project traffic. All study area intersections would meet the City's LOS D standard and no project impacts are anticipated in the Existing Plus Project condition. Further, implementation of the proposed project would be required to comply with Standard Condition 4.16-1, which requires payment of fees, as applicable, in accordance with Costa Mesa's traffic impact fee program to mitigate project-generated traffic impacts (including regional traffic).

Year 2017 Without Project Conditions Intersection Operations

To determine potential traffic impacts of the proposed project on the study area at the 2017 opening year, forecast year 2017 without project conditions are examined prior to forecast year 2017 with project conditions.

Table 4.16-11, *Opening Year (2017) Weekday Peak Hour Intersection LOS (ICU Methodology)*, summarizes the opening year without project conditions a.m. and p.m. peak hour LOS of the study intersections using the ICU methodology. Table 4.16-12, *Opening Year (2017) Weekday Peak Hour Intersection LOS (HCM Methodology)*, summarizes the opening year without project a.m. and p.m. peak hour LOS of the study intersections using the HCM methodology. As depicted in Table 4.16-11 and Table 4.16-12, all study intersections currently operate at LOS D or better in the Opening Year (2017) without project conditions during both the a.m. and p.m. peak hours.

Table 4.16-11
Opening Year (2017) Without Project Weekday Peak Hour Intersection LOS
(ICU Methodology)

Study Intersection		Opening Year (2017) Conditions			
		AM Peak Hour		PM Peak Hour	
		LOS[1]	V/C[2]	LOS[1]	V/C[2]
1	Milbro Street/Baker Street	B	0.632	A	0.533
2	Bear Street/Baker Street	C	0.752	D	0.834
3	Bear Street/SR-73 SB Ramps	C	0.719	B	0.666
4	Bear Street/SR-73 SB Ramps	B	0.686	D	0.822

Notes:
1. Level of Service, based on Intersection Capacity Utilization (ICU).
2. Volume to Capacity Ratio.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Table 4.16-12
Opening Year (2017) Without Project Weekday Peak Hour Intersection LOS
(HCM Methodology)

Study Intersection		Opening Year (2017) Conditions			
		AM Peak Hour		PM Peak Hour	
		LOS[1]	Delay[2]	LOS[1]	Delay
3	Bear Street/SR-73 SB Ramps	B	17.8	C	30.9
4	Bear Street/SR-73 SB Ramps	B	14.7	D	51.1

Notes:
1. HCM 2010 does not run signalized LOS for intersections with shared lanes. Therefore, LOS at the SR-73/Bear Street Ramps is evaluated using HCM 2000 for signalized intersections.
2. Delay in seconds per vehicle.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Year 2017 Plus Project Conditions Intersection Operations

This section analyzes traffic conditions associated with the addition of trips forecast to be generated by the proposed project to Opening Year 2017 Plus Project conditions. Opening Year 2017 Plus Project conditions volumes were derived by adding project-generated trips to forecast

year 2017 without project condition traffic volumes. Table 4.16-13, *Opening Year and Opening Year With Project Weekday Peak Hour Intersection LOS (ICU Methodology)*, and Table 4.16-14, *Opening Year and Opening Year With Project Weekday Peak Hour (HCM Methodology)*, provide a comparison between the Opening Year (2017) with and without project conditions for the weekday a.m. and p.m. peak hours. Detailed LOS worksheets are included in Appendix C of the Traffic Impact Analysis.

Table 4.16-13
Opening Year and Opening Year With Project Weekday Peak Hour
Intersection LOS (ICU Methodology)

Study Intersection		Opening Year (2017)				Opening Year (2017) With Project				V/C Change	
		AM Peak		PM Peak		AM Peak Hour		PM Peak Hour		AM	PM
		LOS[1]	V/C[2]	LOS[1]	V/C[2]	LOS[1]	V/C[2]	LOS[1]	V/C[2]		
1	Milbro Street/Baker Street	B	0.632	A	0.533	B	0.633	A	0.533	0.001	0.000
2	Bear Street/Baker Street	C	0.752	D	0.834	C	0.755	D	0.839	0.003	0.005
3	Bear Street/SR-73 SB Ramps	C	0.719	B	0.666	C	0.724	B	0.669	0.005	0.003
4	Bear Street/SR-73 SB Ramps	B	0.686	D	0.822	B	0.690	D	0.824	0.004	0.002

Notes:
1. Level of Service, based on Intersection Capacity Utilization (ICU).
2. Volume to Capacity Ratio.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

Table 4.16-14
Opening Year and Opening Year With Project Weekday Peak Hour
(HCM Methodology)

Study Intersection		Opening Year (2017)				Opening Year (2017) With Project			
		AM Peak		PM Peak		AM Peak Hour		PM Peak Hour	
		LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]
3	Bear Street/SR-73 SB Ramps	B	17.8	C	30.9	B	19.2	C	32.1
4	Bear Street/SR-73 SB Ramps	B	14.7	D	51.1	B	15.0	D	51.7

Notes:
1. HCM 2010 does not run signalized LOS for intersections with shared lanes. Therefore, LOS at the SR-73/Bear Street Ramps is evaluated using HCM 2000 for signalized intersections.
2. Delay in seconds per vehicle.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

As shown in Table 4.16-13 and Table 4.16-14, all study intersections currently operate at satisfactory LOS D or better during the a.m. and p.m. peak hours and are forecast to continue to operate at satisfactory LOS D or better during the weekday a.m. and p.m. peak hours with the addition of project traffic. All study area intersections would meet the City's LOS D standard and less than significant impacts would result in the Opening Year (2017) Plus Project condition.

Project Access

The existing self-storage facility is served by two full-access driveways on Baker Street. The project proposes to consolidate the two driveways into one full-access driveway located approximately 340 feet west of Bear Street. An analysis of the existing and proposed driveway was prepared to evaluate the without and with project traffic operations. The existing driveways have been evaluated as one consolidated driveway to provide a comparison between existing and with project conditions. Table 4.16-15, *Project Driveway Operations Analysis*, shows the traffic operations at the project driveway for the without-project and with-project conditions.

Table 4.16-15
Project Driveway Operations Analysis

Study Intersection[1]	AM Peak Hour		PM Peak Hour	
	LOS	Delay[2]	LOS	Delay
Existing Without Project	E	38.3	C	23.5
Existing With Project	E	49.5	D	29.5
Opening Year (2017) Without Project	E	41.6	D	25.4
Opening Year (2017) With Project	F	55.0	D	32.1

Notes:
1. The two existing project driveways have been combined to one driveway in the without-project analysis.
2. Delay in seconds per vehicle.

Source: Transpo Group, *De Nova Homes Baker Street Residential Project Traffic Impact Analysis,* January 2016; provided in Appendix 8.6.

As shown in Table 4.16-15, the project driveway currently operates at LOS E during the a.m. peak hour, which exceeds the City's goal of LOS D. It should be noted that Objective CIR-1A.11 in the City's General Plan Circulation Element specifies that the LOS D standard applies to intersections "under the sole control of the City". Because the project driveway would be a private driveway, the entire intersection would not be under the control of the City and therefore the criteria would not apply.

The delay at the project driveway identified in Table 4.16-15 would only be experienced by project residents turning left out of the driveway onto Baker Street during the a.m. peak hour. The majority of the drivers at the intersection, those proceeding eastbound and westbound on Baker Street, would not experience any delay at the project driveway. It is possible that residents turning left out of the driveway could become impatient and instead turn right and then make a U-turn at Bear Street. If this were to occur, approximately 4 vehicles would be added to the eastbound U-turn movement at Bear Street. The LOS would not change with the addition of U-turns to the Bear Street/Baker Street intersection. Thus, in order to ensure impacts at the project driveway remain less than significant during the a.m. peak hour, left turn movements would be prohibited for vehicles exiting the project driveway (Mitigation Measure TRA-1).

Figure 10, *Project Driveway Location and Queuing on Baker Street*, of the Traffic Impact Analysis shows the project driveway in relation to the turn lanes on Baker Street. As shown in the figure, the eastbound left-turn lanes at Bear Street are approximately 290 feet long. The proposed driveway would be located approximately 340 feet from Bear Street. This is 50 feet west of the terminus of the eastbound left-turn lane at Bear Street and approximately 15 feet east of the existing bus stop and concrete bus pad. To identify the existing eastbound left-turn queue at Bear

Street, the left-turn queue was observed on Tuesday, November 17, 2015. The maximum queue observed was 13 vehicles during the 15 minutes from 8:00 a.m. to 8:15 a.m. A queue of 13 vehicles was again observed between 5:00 p.m. and 5:15 p.m. Review of the video used to conduct the queuing surveys shows that the maximum queue of 13 vehicles did not exceed the length of the turn lane (290 feet, or approximately 22.3 feet per vehicle). This queue would end approximately 50 feet east of the project driveway, thereby leaving room for at least two vehicles to queue while turning into the project driveway. This is adequate to accommodate the 95th percentile queue of one vehicle or less in the Existing and Opening Year (2017) with-project conditions.

Thus, with implementation of the recommended Mitigation Measure TRA-1, and as illustrated in the left turn queuing analysis at Bear Street, impacts at the project driveway would remain less than significant and no secondary impacts at the Bear Street intersection would result.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result with implementation of Standard Condition 4.16-1 (similar to the proposed project).

Standard Conditions:

SC 4.16-1 The project Applicant shall be responsible for the payment of fees in accordance with Costa Mesa's traffic impact fee program to mitigate project-generated traffic impacts (including regional traffic).

Mitigation Measures:

TRA-1 Prior to issuance of building permits, the project Applicant shall submit a plan to the City Engineer that demonstrates that the project driveway would be constructed with appropriate treatments to ensure right turn out only movements are allowed from the project site to Baker Street.

b) ***Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?***

No Impact. The purpose of the Congestion Management Program (CMP) is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality planning programs throughout the County, consistent with that of the Southern California Association of Governments (SCAG). The CMP requires review of substantial individual projects, which might on their own impact the CMP transportation system. Specifically, the Congestion Management Program (CMP) Traffic Impact Analysis (TIA) measures impacts of a project on the CMP Highway System (CMPHS). Development projects that generate more than 2,400 daily trips are subject to a TIA for CMP evaluation. For projects that would directly access or be in close proximity to a CMP Highway System link, a reduced threshold of 1,600 trips per day is used.

As discussed above, under Response 4.16(a), the project would generate up to 336 additional daily trips, including an additional 30 a.m. peak hour trips and an additional 29 p.m. peak hour trips, than currently occur under existing conditions. The project would generate a total of 533 daily trips, and thus would not meet the criteria for a CMP TIA. Project-related impacts on applicable CMPs and other established standards are considered less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

No Impact. The nearest airport to the project site is the John Wayne Airport, located approximately 1.50 miles east of the project site. The project involves a 56-unit residential development and would not result in a change in air traffic patterns. Due to distance and nature of the proposed project, the project would not result in any change in air traffic patterns or traffic levels. Therefore, no impact would occur.

Site Plan Alternative

The Site Plan Alternative would occur at the same location as the project and would result in the same operations. Thus, similar to the proposed project, no impacts would result in this regard.

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less Than Significant Impact. The proposed project is not anticipated to result in significant impacts related to hazardous design features. The proposed project would construct a site access driveway along Baker Street. This driveway would be designed and constructed in accordance with City standards to minimize the potential for safety risks. Thus, impacts in regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would occur at the same location as the project and would result in the same operations, less than significant impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

e) ***Result in inadequate emergency access?***

Less Than Significant Impact. Development of the proposed project would provide emergency access to persons at the project site via access along Baker Street. All appropriate fire and emergency access conditions would be incorporated into the design of the project. Prior to final site plan approval, the Applicant would be required to submit plans to the Costa Mesa Police Department and Orange County Fire Authority (OCFA) for review of compliance with applicable regulations. With implementation of the existing City standards and regulations, site access would be sufficient for emergency vehicles and impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would occur at the same location as the project and would result in the same operations, less than significant impacts would result with compliance with the City's Municipal Code regulations (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

f) ***Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?***

Less Than Significant Impact. The project would not conflict with adopted policies, plans, or programs supporting alternative transportation. The project site is served by OCTA Routes 173 and 55. In addition, there are sidewalks and bicycle lanes on both Baker Street and Bear Street. Pedestrian and bicycle counts were collected at the same time as the traffic counts at study area intersections. According to the counts, there were approximately 46 pedestrian and bicycle crossings at Milbro Street/Baker Street during the a.m. peak period and 57 pedestrian and bicycle crossings during the p.m. peak period. At Bear Street/Baker Street, there were approximately 33 bicycle and pedestrian crossings during the a.m. peak period and 52 during the p.m. peak period.

The project is not anticipated to result in a significant addition of transit, bicycle, or pedestrian trips. According to the 2014 American Communities Survey, in Costa Mesa, approximately three percent of commute trips are made by transit and 10 percent are made by walking or bicycle. For the proposed project (56 dwelling units), this would be fewer than two commute trips by transit and fewer than 6 trips by walking or bicycle. The transit, walking, and bicycle trips generated by the project are unlikely to exceed the capacity of the existing bicycle or pedestrian network. Thus, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would occur at the same location as the project and would result in the same operations, less than significant impacts would result in this regard (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation is required.

4.17 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			✓	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			✓	
e. Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

Less Than Significant Impact. The Regional Water Quality Control Board (RWQCB), Santa Ana Region, issued a National Pollutant Discharge Elimination System (NPDES) permit, which includes the City as a Permittee. The NPDES permit implements federal and state law governing point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the United States.

The project site is currently developed and wastewater collection services are provided to the site by the Costa Mesa Sanitary District (CMSD). CMSD is responsible for sewer collection services and transmission to the Orange County Sanitation District facilities for treatment and disposal and provides service to all of Costa Mesa, portions of Newport Beach, and unincorporated Orange County. CMSD maintains 219.4 miles of gravity sewer mains and approximately 4,650 sewer manholes within the system. There are 20 sewer lift stations located within the collection system.

The proposed project would result in the demolition of the existing self-storage facility and the construction of a new single-family residential development. Due to the interference from a large

City storm drain and two water lines, the project would connect to the proposed 8-inch sewer in Post Road near the southwest corner of the project site.[1] The proposed pipelines would include a new 8-inch sewer pipeline that would connect to the existing storm drain in Post Road and new 18-inch storm drains that would connect to the proposed bio-filtration basins and then the existing 72-inch storm drain in Baker Street. While the project would result in an increase in population at the site, the CMSD has indicated that it has adequate capacity to serve the proposed project, and the project would not result in a violation of the existing requirements prescribed by the Santa Ana RWQCB;[2] refer to Appendix 8.7, *Utilities Correspondence*.

The project is also subject to compliance with an on-site sewer cleaning requirements. Regular cleaning is a requirement under the State of California, State Water Resources Control Board Order No. 2006-0003, and Statewide General Waste Discharge Requirements (WDR) for Wastewater Collection Agencies, adopted on May 2, 2006. The CMSD would be responsible for meeting all State and Federal wastewater treatment requirements. Thus, upon compliance with all requirements of the CMSD (enforced through Standard Conditions 4.17-1 through 4.17-4), project implementation would not cause an exceedance of wastewater treatment requirements and impacts in this regard would be less than significant.

Site Plan Alternative

The Site Plan Alternative would result in the similar construction impacts and operations as the proposed project. Less than significant impacts would result following compliance with the requirements of the CMSD (required per Standard Conditions 4.17-1 through 4.17-4) (similar to the proposed project).

Standard Conditions:

SC 4.17-1 Applicant would be required to construct sewers to serve the project, at his/her own expense, meeting the approval of the Costa Mesa Sanitary District.

SC 4.17-2 County Sanitation District fees, fixtures fees, inspection fees, and sewer permit are required prior to installation of sewer.

SC 4.17-3 The Applicant shall submit a plan showing sewer improvements that meets the District Engineer's approval to the Building Division as part of the plans submitted for plan check.

SC 4.17-4 The Applicant would be required to contact the Costa Mesa Sanitary District to arrange final sign-off prior to Certificate of Occupancy being released.

Mitigation Measures: No mitigation measures are required.

b) ***Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

[1] Written Communication: Robin B. Hamers, District Engineer, Costa Mesa Sanitation District, September 25, 2015.

[2] Ibid.

Less Than Significant Impact. The Mesa Consolidated Water District (Mesa Water) provides water service to 108,000 residents in an 18-square-mile area. The service area includes the City of Costa Mesa, parts of Newport Beach, and some unincorporated sections of Orange County. The project site is located within Mesa Water's Division 4.[3]

Existing 6-inch City water mains are located within Post Road and Baker Street. The project would include 8-inch water lines on-site, and would connect to both of the existing 6-inch water mains within both Post Road and Baker Street. Per a letter issued by the Mesa Water, there is sufficient water supply and adequate pressure for Mesa Water to serve the project, including fire protection (refer to Appendix 8.7). In addition, the project Applicant is required to pay all associated costs resulting from the necessary improvements for the proposed project. Impacts regarding wastewater treatment facilities are described in Response 4.17(a), above. As such, it is not anticipated that any water or wastewater facilities would be required to serve the project that would result in a significant environmental effect. Refer to Response 4.17(d), below, for a discussion of water supply impacts. Thus, upon payment of required fees, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same number of units as the proposed project, less than significant impacts would result upon payment of required fees (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

c) ***Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

Less Than Significant Impact. Currently, there is an existing 72-inch storm drain in Baker Street and an 8-inch storm drain in Post Road near the project site. The existing drainage at the project site sheet flows off-site to the north.

The proposed project would construct new 18-inch storm drains that would connect to the proposed bio-filtration basins and then the existing 72-inch storm drain in Baker Street and new 8-inch storm drains that would connect to the existing 8-inch storm drain in Post Road. The project Applicant would be required to pay appropriate bonds for construction per the Municipal Code requirements. The project would not include the development of onsite drainage facilities and would not include the construction of off-site drainage facilities. These construction activities have been considered throughout this Initial Study and have been specifically discussed as applicable. Based on the analysis presented throughout this Initial Study, with implementation of the recommended mitigation measures, as applicable, no significant environmental impacts would result in this regard.

[3] Mesa Consolidated Water District, *Director Divisions Mesa Water District,* March 2014.

Site Plan Alternative

As the Site Plan Alternative would result in the same number of units as the proposed project, less than significant impacts would result upon payment of required bonds for construction (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

d) ***Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?***

Less Than Significant Impact. Mesa Water provides water service and would serve the project site. Mesa Water receives its water from two main sources: the Lower Santa Ana River Groundwater basin, which is managed by the Orange County Water District (OCWD) and imported water from the Municipal Water District of Orange County (MWDOC). Groundwater is pumped from six wells that pump clear water from the basin and two wells that pump colored water. The colored water is treated at the Colored Water Treatment Facility (CWTF) and imported water is treated at the Diemer Filtration Plant and is delivered to Mesa Water through the imported water connections.

Based on the Mesa Water's *2010 Urban Water Management Plan* (UWMP), Mesa Water has a total water demand of 19,400 acre-feet annually consisting of 2,400 acre-feet of imported water, 15,900 acre-feet of local groundwater, and 1,100 acre-feet of recycled water. Mesa Water's 2015 interim water use target is 161.1 gallons per capita per day (GPCD) and the 2020 final water use target is 143.2 GPCD.

The UWMP includes an analysis of water supply reliability projected through 2035. Based on the analysis, Mesa Water would be capable of providing adequate water supply to its service area under a normal supply and demand scenario, single dry-year supply and demand scenario, and multiple dry-year supply and demand scenarios through 2035. Thus, the UWMP accounts for increased demand as growth within the City occurs.

The UWMP projects a 10 percent increase in Mesa Water's service area population over the next 25 years, representing an average growth rate of 0.4 percent per year. Based on Table 2-2, *Population – Current and Projected,* Mesa Water currently serves 111,166 people and projects to serve up to 121,426 in the year 2035. Due to the introduction of new residents (approximately 154 persons), the project would result in a nominal increase in water demand of 1.5 percent of the total increase in Mesa Water's service area population over the next 25 years (10,260 people). The UWMP demonstrates that adequate supply is available to serve the City through the long-range year of 2035. The UWMP projections are based on OCWD Orange County Basin Production Percentage (BPP) and sources of imported water supplies. The OCWD BPP is set based on groundwater conditions, availability of imported water supplies, and Basin management objectives. The sources of imported water supplies include the Colorado River via the Colorado Aqueduct and the Lake Oroville watershed in Northern California through the State Water Project (SWP). This water is treated at the Robert B. Diemer Filtration Plant located north of Yorba Linda. Typically, the Diemer Filtration Plant receives a blend of Colorado River water from Lake Mathews through the Metropolitan Lower Feeder and SWP water through the Yorba Linda Feeder. Based

on a letter issued by Mesa Water, Mesa Water can and would supply the proposed project (refer to Appendix 8.7).[4] As such, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same number of units as the proposed project, less than significant impacts pertaining to water supply would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

e) ***Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

Less Than Significant Impact. Refer to Response 4.17(a), above.

Mitigation Measures: No mitigation measures are required.

f) ***Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?***

Less Than Significant Impact. The City of Costa Mesa including the project site would be served by the following solid waste facilities and landfills: Frank R. Bowerman Sanitary Landfill, Olinda Alpha Sanitary Landfill, and Prima Deschecha Sanitary Landfill. The Frank R. Bowerman Sanitary Landfill has a total permitted capacity of 266,000,000 cubic yards, a remaining capacity of 205,000,000 cubic yards of solid waste, allows 11,500 tons per day of permitted throughput per day and has an estimated closure date of December 31, 2053.[5] The Olinda Alpha Sanitary Landfill has a total permitted capacity of 148,800,000 cubic yards, a remaining capacity of 36,589,707 cubic yards of solid waste, allows 8,000 tons per day of permitted throughput per day and has an estimated closure date of December 31, 2021.[6] The Prima Deschecha Sanitary Landfill has a total permitted capacity of 172,900,000 cubic yards, a remaining capacity of 87,384,799 cubic yards of solid waste, allows 4,000 tons per day of permitted throughput per day and has an estimated closure date of December 31, 2067.[7] Based on the most conservative option, the Olinda Alpha Sanitary Landfill has approximately 25 percent remaining capacity.

The proposed project would result in the generation of solid waste during the construction process, in addition to solid waste generated by on-site residents during long-term operations. A net increase of approximately 154 persons would occur with implementation of the proposed project. However, this increase in solid waste generation is not expected to be substantial based upon the capacity available at Frank R. Bowerman Landfill, Olinda Alpha Sanitary Landfill, and

[4] Written Communication: Phil Lauri, P.E., District Engineer, Mesa Water District, September 24, 2015.
[5] CalRecycle official website, *Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360)*, http://www.calrecycle.ca.gov/SWFacilities/ Directory/30-AB-0360/Detail/, accessed April 25, 2016.
[6] CalRecycle official website, *Facility/Site Summary Details: Olinda Alpha Sanitary Landfill (30-AB-0035),* http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/, accessed April 25, 2016.
[7] CalRecycle official website, *Facility/Site Summary Details: Prima Deshecha Sanitary Landfill (30-AB-0019)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0019/Detail/, accessed April 25, 2016.

Prima Deschecha Sanitary Landfill. Additionally, the project would be subject to compliance with Standard Condition 4.17-5, which addresses Costa Mesa Sanitary District consultation. Thus, the project would be served by a landfill with sufficient permitted capacity to accommodate the project's waste disposal needs and impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same number of units as the proposed project, less than significant impacts would result with compliance with Standard Condition 4.17-5 (similar to the proposed project).

Standard Conditions:

SC 4.17-5 The project Applicant would be required to coordinate with the Costa Mesa Sanitary District to comply with all recommended studies and improvements, prior to issuance of a building permit.

Mitigation Measures: No mitigation measures are required.

g) *Comply with federal, state and local statutes and regulations related to solid waste?*

Less Than Significant Impact. AB 939 requires that local jurisdictions divert at least 50 percent of all solid waste generated by January 1, 2000. SB 2202 clarified that local governments shall continue to divert 50 percent of all solid waste on and after January 1, 2000. SB 1016 introduced a per capita disposal measurement system that measures the 50 percent diversion requirement using a disposal measurement equivalent. For the 2014 reporting year, Costa Mesa's per Resident Disposal Rate was 4.8 pounds per day and Per Employee Disposal Rate was 6.6 pounds per day, which were less than the City's Disposal Rate Targets of 8.5 pounds per day per Resident and 11.3 pounds per day per Employee.[8] Notwithstanding, the proposed project would be required to comply with the City's Source Reduction and Recycling Element (SRRE) for diverting solid waste. Compliance with the SRRE would reduce the volume of solid waste ultimately disposed of at a landfill. Additionally, compliance with the SRRE would be in furtherance of increasing the City's Resident and Employee pounds per day rates) and meeting AB 939's 50 percent diversion requirement. Continued compliance with the SRRE would ensure that the proposed project would comply with the statutes and regulations related to solid waste. Therefore, less than significant impacts would occur in this regard.

Site Plan Alternative

As the Site Plan Alternative would result in the same number of units as the proposed project, less than significant impacts would result (similar to the proposed project).

Standard Conditions: No standard conditions are applicable.

Mitigation Measures: No mitigation measures are required.

[8] CalRecycle, *Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report,* http://www.calrecycle.ca.gov/lgcentral/Reports/jurisdiction/diversiondisposal.aspx, accessed May 10, 2016.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			✓	
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			✓	
c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

a) ***Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?***

Less Than Significant Impact. The project site is within a developed urbanized area, and there are no rare, endangered, or threatened plants and animal species within the project site. No impacts to biological resources would occur.

As noted above within Section 4.5, *Cultural Resources*, the site exists within a highly developed area and the project site has been completely disturbed as a result of the existing on-site structure. No known cultural resources exist within the boundaries of the site. Although it is not expected that cultural resources would be encountered during construction, the project would require excavation. As such, Standard Conditions 4.5-1 through 4.5-3 have been provided in the unlikely event such resources are discovered during the grading and excavation process. Upon implementation of the Standard Conditions 4.5-1 through 4.5-3, impacts would be reduced to less than significant levels.

Site Plan Alternative

As the Site Plan Alternative would result in the same construction impacts and operations as the proposed project, less than significant impacts would result with implementation of Standard Conditions 4.5-1 through 4.5-3 (similar to the proposed project).

b) ***Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?***

Less Than Significant Impact. As noted within Section 4.0, *Environmental Analysis*, impacts related to the proposed project would be less than significant with implementation of standard conditions and recommended mitigation measures. No impacts related to the project have been identified that would be individually limited, but cumulatively considerable for the issue areas analyzed within this Initial Study. The proposed project would be consistent with the City's long-range development plans for the project site as it would represent a use consistent with the surrounding development. Thus, impacts in this regard would be less than significant.

Site Plan Alternative

As the Site Plan Alternative would result in the same operations as the proposed project, less than significant impacts would result in this regard (similar to the proposed project).

c) ***Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?***

Less Than Significant Impact With Mitigation Incorporated. Previous sections of this Initial Study reviewed the proposed project's potential impacts related to aesthetics, air pollution, noise, greenhouse gas emissions, geology and soils, and other issues. Standard conditions and recommended mitigation measures have been incorporated into the project that would reduce the potential adverse impacts on human beings to a less than significant level. Therefore, with implementation of recommended mitigation measures, the proposed project would not result in environmental impacts that would cause substantial adverse effects on human beings.

Site Plan Alternative

The Site Plan Alternative would result in similar construction impacts and operations as the proposed project. As discussed throughout the Initial Study, impacts in this regard would be reduced to less than significant levels with compliance with Standard Conditions and recommended Mitigation Measures (similar to the proposed project).

5.0 INVENTORY OF STANDARD CONDITIONS AND MITIGATION MEASURES

AESTHETICS

Standard Conditions:

SC 4.1.1 Prior to the issuance of Building Permits, the project Applicant shall submit a Lighting Plan and Photometric Study for the approval of the City's Development Services Department. The Lighting Plan shall demonstrate compliance with the following:

- The mounting height of lights on light standards shall not exceed 18 feet in any location on the project site unless approved by the Development Services Director.
- The intensity and location of lights on buildings shall be subject to the Development Services Director's approval.
- All site lighting fixtures shall be provided with a flat glass lens. Photometric calculations shall indicate the effect of the flat glass lens fixture efficiency.
- Lighting design and layout shall limit spill light to no more than 0.5-foot candle at the property line of the surrounding neighbors, consistent with the level of lighting that is deemed necessary for safety and security purposes on-site.
- Glare shields may be required for select light standards.

AIR QUALITY

Standard Conditions:

SC 4.3-1 All construction contractors shall comply with South Coast Air Quality Management District (SCAQMD) regulations, including Rule 403, Fugitive Dust. All grading (regardless of acreage) shall apply best available control measures for fugitive dust in accordance with Rule 403. To ensure that the project is in full compliance with applicable SCAQMD dust regulations and that there is no nuisance impact off the site, the contractor would implement each of the following:

- Moisten soil not more than 15 minutes prior to moving soil or conduct whatever watering is necessary to prevent visible dust emissions from exceeding 100 feet in any direction.
- Apply chemical stabilizers to disturbed surface areas (completed grading areas) within five days of completing grading or apply dust suppressants or vegetation sufficient to maintain a stabilized surface.
- Water excavated soil piles hourly or covered with temporary coverings.

- Water exposed surfaces at least twice a day under calm conditions. Water as often as needed on windy days when winds are less than 25 miles per day or during very dry weather in order to maintain a surface crust and prevent the release of visible emissions from the construction site.

- Wash mud-covered tired and under-carriages of trucks leaving construction sites.

- Provide for street sweeping, as needed, on adjacent roadways to remove dirt dropped by construction vehicles or mud, which would otherwise be carried off by trucks departing project sites.

- Securely cover loads with a tight fitting tarp on any truck leaving the construction sites to dispose of debris.

SC 4.3-2 SCAQMD Rule 445 prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or a similarly enclosed, aesthetic or space heating purposes, which has a heat input of less than one million British thermal units per hour.

SC 4.3-3 The project shall comply with Title 24 of the California Code of Regulations established by the energy conservation standards. The project Applicant shall incorporate the following in building plans:

- Double paned glass or window treatment for energy conservation shall be used in all exterior windows;

- Buildings shall be oriented north/south where feasible.

SC 4.3-4 The Applicant shall contact the South Coast Air Quality Management District (SCAQMD) at (800) 288-7664 for potential additional conditions of development or for additional permits required by the SCAQMD.

Mitigation Measures:

AQ-1 The following measures shall be implemented by the contractor to reduce ROG emissions resulting from application of architectural coatings:

- Use high-pressure-low-volume (HPLV) paint applicators with a minimum transfer efficiency of at least 50 percent;

- Use pre-painted construction materials; and

- VOC content of architectural coatings shall not exceed 50 grams per liter.

BIOLOGICAL RESOURCES

Standard Conditions:

SC 4.4-1 The Applicant shall comply with the requirements of the California Department of Food and Agriculture (CDFA) to determine if red imported fire ants exist on the project site prior to any soil movement or excavation. Call CDFA at (714) 708-1910 for information.

CULTURAL RESOURCES

Standard Conditions:

SC 4.5-1 In the event that archaeological resources are encountered during grading and construction, all construction activities shall be temporarily halted or redirected to permit the sampling, identification, and evaluation of archaeological materials as determined by the City, who shall establish, in cooperation with the project Applicant and a certified archaeologist, the appropriate procedures for exploration and/or salvage of the artifacts.

SC 4.5-2 In the event that paleontological resources are encountered during grading and construction operations, all construction activities shall be temporarily halted or redirected to permit a qualified paleontologist to assess the find for significance and, if necessary, develop a paleontological resources impact mitigation plan (PRIMP) for the review and approval by the City prior to resuming excavation activities.

SC 4.5-3 If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

GEOLOGY AND SOILS

Standard Conditions:

SC 4.6-1 The Applicant shall comply with the requirements of the 2013 California Building Code, 2013 California Residential Code, 2013 California Electrical Code, 2013 California Mechanical Code, 2013 California Plumbing Code 2013 California Green Building Standards Code, and the 2013 California Energy Code (or the applicable adopted California Building Code, California Residential Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Green Building Standards, California Energy Code at the time of plan submittal or permit issuance),

and California Code of Regulations also known as the California Building Standards Code, as amended by the City of Costa Mesa. Areas of alteration and additions shall comply with 2013 California Green Building Standards Code Sections 5.303.2 and 5.303.2.

SC 4.6-2 The Applicant shall submit a soils report for this project detailing the expansion potential of on-site soils, and recommendations to minimize any impacts from these soils. The Soils Report recommendations shall be blueprinted on both the architectural and grading plans. For existing soil or where fill are proposed, the Soils Report shall address how the existing soils or the new fill will be maintained to avoid future expansion of soils.

Mitigation Measures:

GEO-1 Prior to issuance of a building permit, the Building Official shall ensure that final engineering plans meet the design parameters for seismic safety identified in the recommendations of the Preliminary Geotechnical Evaluation (Alta California Geotechnical, Inc., *Preliminary Subsurface Geotechnical Investigation for the Proposed Residential Development, 929 Baker Street, City of Costa Mesa, California,* dated September 1, 2015) shall be stipulated in the construction contracts, grading plans, and specifications. All grading activities shall be conducted under the observation and testing of the project geotechnical consultant in accordance with the recommendations of the Preliminary Geotechnical Evaluation and the City of Costa Mesa criteria.

HAZARDS AND HAZARDOUS MATERIALS

Standard Conditions:

SC 4.8-1 Prior to demolition activities, removal and/or abatement of asbestos containing building materials, lead based paints, and hazardous materials associated with the existing building materials, an investigation shall be conducted by a qualified environmental professional in consultation with the Costa Mesa Fire Department. An asbestos and hazardous materials abatement plan shall be developed by the qualified environmental professional, in order to clearly define the scope and objective of the abatement activities.

SC 4.8-2 During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1529, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos. Asbestos-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

SC 4.8-3 During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations, Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other

wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

SC 4.8-4 Prior to investigations, demolition, or renovation, all activities shall be coordinated with Dig Alert (811).

SC 4.8-5 Visual inspections for areas of impact to soil shall be conducted during site grading. If unknown or suspect materials are discovered during construction by the contractor that are believed to involve hazardous wastes or materials, the contractor shall:

- Immediately stop work in the vicinity of the suspected contaminant, removing
- workers and the public from the area;
- Notify the City Engineer and Costa Mesa Fire Department;
- Secure the area(s) in question; and
- Implement required corrective actions, including remediation if applicable.

Mitigation Measures:

HAZ-1 Prior to issuance of a grading permit, a Soil Management Plan (SMP) shall be prepared by a qualified environmental professional with Phase II/Site Characterization experience. The SMP shall be made available to the contractor and the City Engineer for use during grading activities. The SMP shall include guidelines for safety measures and soil management in the event that soils are to be disturbed, and for handling soil during any planned earthwork activities. The SMP shall also include a decision framework and specific risk management measures for managing soil, including any soil import/export activities, in a manner protective of human health and consistent with applicable regulatory requirements.

HAZ-2 Observations shall be made by the contractor during grading, utility trenching, and footing excavations for the presence unknown buried structures, containers, debris, and/or soil potentially impacted by chemicals compounds or fuel and oil hydrocarbons. Indications of impacted soil may include chemical or fuel odors, unusual coloration, apparent moisture, and staining. If any of the above are encountered, a qualified environmental professional with Phase II/Site Characterization experience shall be consulted to provide field monitoring using appropriate instrumentation, such as a photoionization detector (PID), and to assist with segregation of excavated material for proper disposal at a licensed waste-handling facility.

HAZ-3 The Applicant shall install an appropriately designed vapor barrier beneath future structures that overlie the locations where chemical compounds were detected at levels above the ESLs. Vapor barrier design activities shall include consideration, by a qualified environmental professional with Phase II/Site Characterization experience, of the materials and methods to be used during vapor barrier installation as well as the locations where the vapor barriers are necessary, including a buffer zone. The vapor barriers shall be installed prior to emplacement of concrete floor slabs and footings. Below-ground ventilation lines shall also be constructed, prior to concrete work, such that chemical vapors are not trapped below the concrete floor slabs. The ventilation lines shall be open to the exterior of the structures, preferably at least 8 feet above the

ground surface, or as otherwise specified by the Phase II/Site Characterization specialist.

HYDROLOGY AND WATER QUALITY

Standard Conditions:

SC 4.9-1 In order to comply with the DAMP, the project shall prepare a Storm Drain Plan, Stormwater Pollution Prevention Plan (SWPPP), and Water Quality Management Plan (WQMP) conforming to the current National Pollution Discharge Elimination System (NPDES) requirements, prepared by a Licensed Civil Engineer or Environmental Engineer, which shall be submitted to the Department of Public Services for review and approval.

- The SWPPP shall be prepared and updated as needed during the course of construction to satisfy the requirements of each phase of development. The plan shall incorporate all necessary Best Management Practices (BMPs) and other City requirements to eliminate polluted runoff until all construction work for the project is completed. The SWPPP shall include treatment and disposal of all dewatering operation flows and for nuisance flows during construction.

- A WQMP shall be maintained and updated as needed to satisfy the requirements of the adopted NPDES program. The plan shall ensure that the existing water quality measures for all improved phases of the project are adhered to.

- Location of the BMPs shall not be within the public right-of-way.

NOISE

Standard Conditions:

SC 4.12-1 Noise-generating construction activities, including truck traffic coming to and from the construction site for any purpose, shall be limited to between the hours of 7:00 am and 7:00 pm on Mondays through Fridays; to between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays; and shall not be permitted at any time on Sundays or federal holidays.

Mitigation Measures:

NOI-1 Prior to Grading Permit issuance, the project Applicant shall demonstrate, to the satisfaction of the City of Costa Mesa Development Services Director that the project complies with the following:

- Construction contracts specify that all construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other state required noise attenuation devices.

- Construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences, convalescent homes, etc.), to the extent feasible.

- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.

NOI-2 After the plot plans and architectural drawings have been developed, and prior to the issuance of building permits, the project Applicant shall demonstrate, to the satisfaction of the City of Costa Mesa Building Official that the proposed project plans and specifications include the following noise attenuation measures:

- A six-foot noise barrier along Units 1 through 4 and 56 (as depicted in Exhibit 4.12-1).
- An eight-foot noise barrier along Units 41 through 48 (as depicted in Exhibit 4.12-1).
- Units 1 through 4, and 56 shall contain dual-paned windows (as required by code), and shall include fresh air duct capable of providing 30 cubic feet per minute (CFM) of air with the duct opening oriented away from the primary noise source.
- The project Applicant shall work with the Newport-Mesa School District to replace the existing refrigeration condenser unit with a sound power rating of 7.6 or less, or that the noise levels coming from the noise-generating equipment would be reduced by 14 dBA.
- The project Applicant shall work with the Newport-Mesa School District to replace the existing slatted louvers with aluminum acoustic louvers.

NOI-3 Prior to the issuance of Certificate of Occupancy, the project Applicant shall submit a final acoustical report prepared to the satisfaction of the City of Costa Mesa Development Services Director. The report shall show that the development would be sound-attenuated against present and projected noise levels to meet City interior and exterior noise standards. In order to demonstrate that all mitigation measures have been incorporated into the project, the report shall be accompanied by a list identifying the sheet(s) of the building plans that include the approved mitigation measures.

PUBLIC SERVICES

Standard Conditions:

SC 4.14-1 Prior to the issuance of a Building Permit, the City of Costa Mesa Fire Department shall review and approve the developer's project design features to assess compliance with the California Building Code and California Fire Code.

SC 4.14-2 Projections, including eaves, shall be one-hour fire resistive construction, heavy timber or of noncombustible material if they project into the 5 feet setback area from the property line. They may project a maximum of 12 inches beyond the 3 feet setback. California Residential Code Tables R302.1(1) and R302.1(2).

SC 4.14-3 The final plan for development of the project shall provide sufficient capacity for fire flows required by the City of Costa Mesa Fire Department.

SC 4.14-4 Vehicular access shall be provided and maintained serviceable throughout construction to all required fire hydrants.

SC 4.14-5 The project shall provide approved smoke detectors to be installed in accordance with the latest edition of the Uniform Fire Code.

SC 4.14-6 The project shall provide a fire alarm system.

SC 4.14-7 The project shall provide individual numeric signage for proposed residences with minimum 6 inches height.

SC 4.14-8 As final building plans are submitted to the City of Costa Mesa for review and approval, the Costa Mesa Police Department shall review all plans for the purpose of ensuring that design requirements are incorporated into the building design to increase safety and avoid unsafe conditions. These measures focus on security measures are recommended by the Police Department, including but not limited to, the following:

- Lighting shall be provided in open areas and parking lots.
- Required building address numbers shall be readily apparent from the street and rooftop building identification shall be readily apparent, if necessary, from police helicopters for emergency response agencies.
- Landscaping requirements (e.g., minimize use of hedges, use of low height shrubs for greater visibility).
- Emergency vehicle parking areas shall be designated within proximity to buildings.
- Prior to the issuance of a Building Permit, the City of Costa Mesa Police Department shall review and approve the developer's project design features to satisfy local requirements. The Applicant shall then pay the appropriate fee in effect to mitigate the project's proportionate impact to additional demands on police protection services, if any.

SC 4.14-9 Prior to issuance of building permits, the Developer shall pay applicable school impact fees for residential development.

SC 4.14-10 Prior to issuance of building permits, the Developer shall pay applicable parkland impact fees for residential development.

TRANSPORTATION/TRAFFIC

Standard Conditions:

SC 4.16-1 The project Applicant shall be responsible for the payment of fees in accordance with Costa Mesa's traffic impact fee program to mitigate project-generated traffic impacts (including regional traffic).

Mitigation Measures:

TRA-1 Prior to issuance of building permits, the project Applicant shall submit a plan to the City Engineer that demonstrates that the project driveway would be constructed with appropriate treatments to ensure right turn out only movements are allowed from the project site to Baker Street.

UTILITIES AND SERVICE SYSTEMS

Standard Conditions:

SC 4.17-1 Applicant would be required to construct sewers to serve the project, at his/her own expense, meeting the approval of the Costa Mesa Sanitary District.

SC 4.17-2 County Sanitation District fees, fixtures fees, inspection fees, and sewer permit are required prior to installation of sewer.

SC 4.17-3 The Applicant shall submit a plan showing sewer improvements that meets the District Engineer's approval to the Building Division as part of the plans submitted for plan check.

SC 4.17-4 The Applicant would be required to contact the Costa Mesa Sanitary District to arrange final sign-off prior to Certificate of Occupancy being released.

SC 4.17-5 The project Applicant would be required to coordinate with the Costa Mesa Sanitary District to comply with all recommended studies and improvements, prior to issuance of a building permit.

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6.0 REFERENCES

The following references were utilized during preparation of this Initial Study.

1. Airport Land Use Commission for Orange County, *Airport Environs Land Use Plan for John Wayne Airport*, amended April 17, 2008.

2. Alta California Geotechnical, Inc., *Preliminary Geotechnical Investigation*, September 1, 2015.

3. ASTM International, *E 2600-10 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*, 2010.

4. Bureau Veritas North America, Inc., *Phase I Environmental Site Assessment*, September 8, 2015.

5. Bureau Veritas North America, Inc., *Subsurface Assessment Report*, November 30, 2015.

6. CalRecycle, Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report, http://www.calrecycle.ca.gov/lgcentral/Reports/jurisdiction/diversion disposal.aspx, accessed May 10, 2016.

7. CalReycle official website, *Facility/Site Summary Details: Frank R. Bowerman Sanitary LF (30-AB-0360)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0360/ Detail/, accessed April 25, 2016.

8. CalRecycle official website, *Facility/Site Summary Details: Olinda Alpha Sanitary Landfill (30-AB-0035),* http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0035/Detail/, accessed April 25, 2016.

9. CalRecycle official website, *Facility/Site Summary Details: Prima Deshecha Sanitary Landfill (30-AB-0019)*, http://www.calrecycle.ca.gov/SWFacilities/Directory/30-AB-0019/Detail/, accessed April 25, 2016.

10. California Department of Conservation, *Farmland Mapping and Monitoring Program, California Important Farmland Finder*, http://maps.conservation.ca.gov/ciff/, accessed on May 2, 2016.

11. California Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos Report*, August 2000.

12. California Department of Forestry and Fire Protection, *Fire hazard Severity Zones in SRA*, adopted on November 7, 2007, http://www.fire.ca.gov/fire_prevention/fire_ prevention_wildland_zones_maps.php, accessed April 25, 2016.

13. California Department of Transportation website, http://www.dot.ca.gov/hq/LandArch/ 16_livability/scenic_highways/index.htm, accessed April 20, 2016.

14. California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 2000 to 2013,* http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-13_20150831.pdf, accessed April 28, 2016.

15. *California Environmental Quality Act*, 1970, as amended, Public Resources Code Sections 21000-21178.

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