A. Initial Study & Appendices, Notice of Preparation, NOC Form, and Written Comments on the NOP

CEQA Initial Study
150 Newport Center

General Plan Amendment No. GP2014-003
Zoning Code Amendment No. CA2014-008
Planned Community Development Plan No. PC2014-004
Site Development Review No. SD2014-006
Tract Map No. NT2015-003
Development Agreement No. DA2014-002
(PA2014-213)

Lead Agency
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January 11, 2016

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B.	Greenhouse Gas Analysis
C.	Preliminary Water Quality Management Plan
D.	Assessment of Sewer Capacity Availability
E.	Assessment of Water Availability

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ACRONYMS

AB	Assembly Bill
ACM	Asbestos-Containing Material
AELUP	Airport Environs Land Use Plan
ALUC	Airport Land Use Commission
amsl	above mean sea level
AQMP	Air Quality Management Plan
APN	Assessor's Parcel Number
BMPs	Best Management Practices
CalEEMod	California Emissions Estimator Model
CBSC	California Building Standards Code
CDC	California Department of Conservation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO-R	Regional Commercial Office
dBA	A-weighted decibels
DOF	Department of Finance
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
GHG	Greenhouse Gas(es)
gpd	gallons per day
HCP	Habitat Conservation Plan
HOA	Homeowners Association
JWA	John Wayne Airport
LOS	Level of Service
mgd	million gallons per day
MRZs	Mineral Resources Zones
MS4	Municipal Separate Storm Sewer System
MTCO2e	Metric Ton of Carbon Dioxide Equivalent
NAHC	Native American Heritage Commission
NBMC	Newport Beach Municipal Code
NCCP	Natural Community Conservation Plan

ACRONYMS

NMUSD	Newport-Mesa Unified School District
NO_X	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System
OCALUC	Orange County Airport Land Use Commission
OCHCA	Orange County Health Care Agency
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OHP	California State Parks Office of Historic Preservation
OR	Office Regional Commercial
PC	Planned Community Zoning District
PC-56	North Newport Center Planned Community 56
PC	Planned Community
$PM_{2.5}$	Fine Particulate Matter
PM_{10}	Inhalable Particulate Matter
pph	person(s) per household
RHNA	Regional Housing Needs Assessment
RM	Multiple Unit Residential
RWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SOx	Sulfur Oxides
SR-1	State Route 1/Pacific Coast Highway
SR-73	State Route 73
SWPPP	Stormwater Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
WQMP	Water Quality Management Plan

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1.0 Introduction

1.1 Purpose and Scope of this CEQA Initial Study

The California Environmental Quality Act (CEQA) is a statewide environmental law contained in Public Resources Code §§ 21000-21177. CEQA applies to most public agency decisions to carry out, authorize, or approve actions that have the potential to adversely affect the environment. The overarching goal of CEQA is to protect the physical environment. To achieve that goal, CEQA requires that public agencies inform themselves of the environmental consequences of their discretionary actions and consider alternatives and mitigation measures that could avoid or reduce significant adverse impacts when avoidance or reduction is feasible. CEQA also gives other public agencies and the general public an opportunity to comment on a proposed project's environmental effects. If significant adverse impacts cannot be avoided, reduced, or mitigated to below a level of significance, the public agency is required to prepare an Environmental Impact Report (EIR) and balance the project's environmental concerns with other goals and benefits in a statement of overriding considerations.

The principal objectives of CEQA are to: 1) inform governmental decision makers and the public about the potential, significant environmental impacts of proposed activities; 2) identify the ways that environmental impacts can be avoided or significantly reduced; 3) prevent significant, avoidable impacts to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and 4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

This Initial Study assesses the potential of the proposed 150 Newport Center Project (the "Project") to effect the physical environment. The Project site comprises 1.26 acres, located in the City of Newport Beach, Orange County, California. The current address of the site is 150 Newport Center Drive, Newport Beach, California 92660-6906. The assessor's parcel number (APN) is 442-231-12.

A Mitigated Negative Declaration (MND) was prepared for the Project and circulated for public review and comment in September, 2015. However, following circulation of the MND, the City determined that an EIR would be prepared in order to more thoroughly evaluate the environmental impacts of the proposed Project. This Initial Study is a preliminary analysis prepared by the City of Newport Beach Community Development Department, acting in its capacity as the CEQA Lead Agency, to determine the level of environmental review and analysis that will be required for the Project in the EIR. This Initial Study is an informational document that provides an objective assessment of the potential environmental impacts that could result from implementation of the proposed Project.

1.2 Potential Environmental Effects of the Proposed Project

The analysis presented in this Initial Study addresses the proposed Project's potential to result in one or more significant direct, indirect, and/or cumulative environmental effects to the following environmental subjects:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources

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

2.0 Project Description and Setting

2.1 Project Location

As shown on Figure 2-1, *Regional Location Map*, and Figure 2-2, *Vicinity Map*, the Project site is located near the center of the City of Newport Beach, adjacent to the Fashion Island shopping center. The site is rectangular in shape and is fronted on the north by Newport Center Drive, on the east by Anacapa Drive, on the south by an existing approximately 38,734 square foot office building with subterranean parking, and on the west by an existing 2-story office park and associated parking areas (Project Application Materials, 2015). Newport Harbor is located 0.71-mile to the southwest. The Project site is located in Section 36 of Township 6 south, Range 10 West, San Bernardino Baseline and Meridian.

2.2 Existing Site and Area Characteristics

2.2.1 Site Access

Primary roadway access to the Project site is provided by a driveway on Anacapa Drive, located along the eastern Project boundary and at driveways on Civic Center Drive, which provide access to the adjoining office parking areas to the south and direct access to the Project site via an ingress/egress easement to the Project site. Local access to the Project vicinity is provided by Newport Center Drive, located north and west of the Project site, Civic Center Drive, located south of the Project site, and Avocado Avenue, located east of the Project site. These local streets provide access to State Route1 (SR-1) also known as Pacific Coast Highway, located approximately 0.31 mile south of the Project site, which provides access to MacArthur Boulevard, located approximately 0.3 mile east of the Project site. MacArthur Boulevard provides access to California State Route 73 (SR-73), located approximately 2.0 miles northeast of the Project site.

2.2.2 Existing Site Conditions

Under existing conditions, the Project site contains an approximately 8,500 square foot single-story building that is operating as a car wash with an ancillary gas station. All portions of the Project site are fully developed with this use, and no undeveloped open space or undisturbed areas occur on the site. There are currently 28 trees on the property. A paved parking area containing 12 parking stalls is located along the western edge of the Project site, and ornamental landscaping areas occur primarily along the perimeter of the site. Street trees, shrubs, groundcover, and curb-adjacent sidewalks are located along the Project site's frontage with Newport Center Drive and Anacapa Drive. There are six street trees located along the Project site's side of Anacapa Drive and three street trees are located on the opposite side of Anacapa Drive from the Project site that would be affected by the proposed Project. Streetlights are located near the intersection of Anacapa Drive and Newport Center Drive. There is an existing private catch basin in the southwest corner of the Project site. Figure 2-3, *Aerial Photograph* depicts the site's existing conditions as seen from above.

2.2.3 Surrounding Land Uses and Development

The Project site is located within a highly urbanized portion of the City of Newport Beach that is fully developed with a variety of office, retail, and service commercial land uses. As shown on Figure 2-4, *Existing and Surrounding Land Uses*, the Project site is bordered by Anacapa Drive on the east. Abutting the Project site on the east, at the southeastern corner of Newport Center Drive and Anacapa Drive, is Muldoon's Irish Pub and an office building occupied by a fitness studio, a rehabilitation and sports therapy office as well as other commercial/office-related businesses. The Project site is bordered by Newport Center Drive on the north, beyond which is Fashion Island, a regional shopping center. Two restaurants are located at the southern edge of the Fashion Island parking lot and are directly across

Newport Center Drive from the Project site at the intersection with Anacapa Drive. To the south and west of the Project site is a parking lot that serves the adjacent Gateway Plaza office complex, which is comprised of seven two-story low rise office buildings, and associated surface parking.

2.3 Planning Context

2.3.1 On-Site General Plan and Zoning Designations

Under existing conditions, the Project site is designated by the Newport Beach General Plan (hereafter, "General Plan") for "CO-R (Regional Commercial Office)" land uses. The CO-R land use designation "…is intended to provide for administrative and professional offices that serve local and regional markets, with limited accessory retail, financial, service, and entertainment uses" (Newport Beach, 2006a, p. 3-13).

2.3.2 Surrounding General Plan and Zoning Designations

General Plan designations surrounding the Project site include Regional Commercial (CR) to the north and Regional Commercial Office (CO-R) to the south, east, and west (Newport Beach, 2006a, Figure LU21). Zoning designations surrounding the Project site include PC-56 (North Newport Center Planned Community) to the north, and PC-56 and OR (Office Regional Commercial) to the west and south. Land to the east is zoned OR (Newport Beach GIS, 2015).

2.3.3 Airport Environs Land Use Plan for John Wayne Airport

John Wayne Airport (JWA) is located approximately 3.6 miles north/northeast of the Project site and is the nearest public airport to the Project site. As detailed in the Airport Environs Land Use Plan (AELUP) for JWA, the northerly one third of the Project site is located within the AELUP Part 77 Notification Area for JWA. The AELUP establishes requirements for notifying the Airport Land Use Commission (ALUC) for Orange County and the Federal Aviation Administration (FAA) of certain construction activities and alterations to existing structures within the AELUP Part 77 Notification Area, in order to ensure there are no obstructions to navigable airspace. Within the Notification Area boundary, ALUC must be notified of any proposed construction or structural alterations involving a land use or legislative amendment in the AELUP Planning Area, development that exceeds 200 feet above ground level, and all heliports or helistops. In addition, projects that surpass 200 feet above ground level must also file Form 7460-1 with the FAA. (OCALUC, 2008, p. 4)

The Project site is located approximately 19,200 feet from the nearest point of the JWA runway. By applying the imaginary surface slope of 100:1, the Project would not penetrate the imaginary surface extending 100 feet outward and one foot upward (slope of 100:1) from the JWA runway at a height of 191 feet. Thus, the Project would not fall within the AELUP Airport Planning Area and does not require ALUC review. The proposed seven-story building proposed by the Project would be 83 feet 6 inches in height, so FAA notification is not required because the structure would not exceed 200 feet in height. (OCALUC, 2008)

FIGURE 2-1
REGIONAL LOCATION MAP

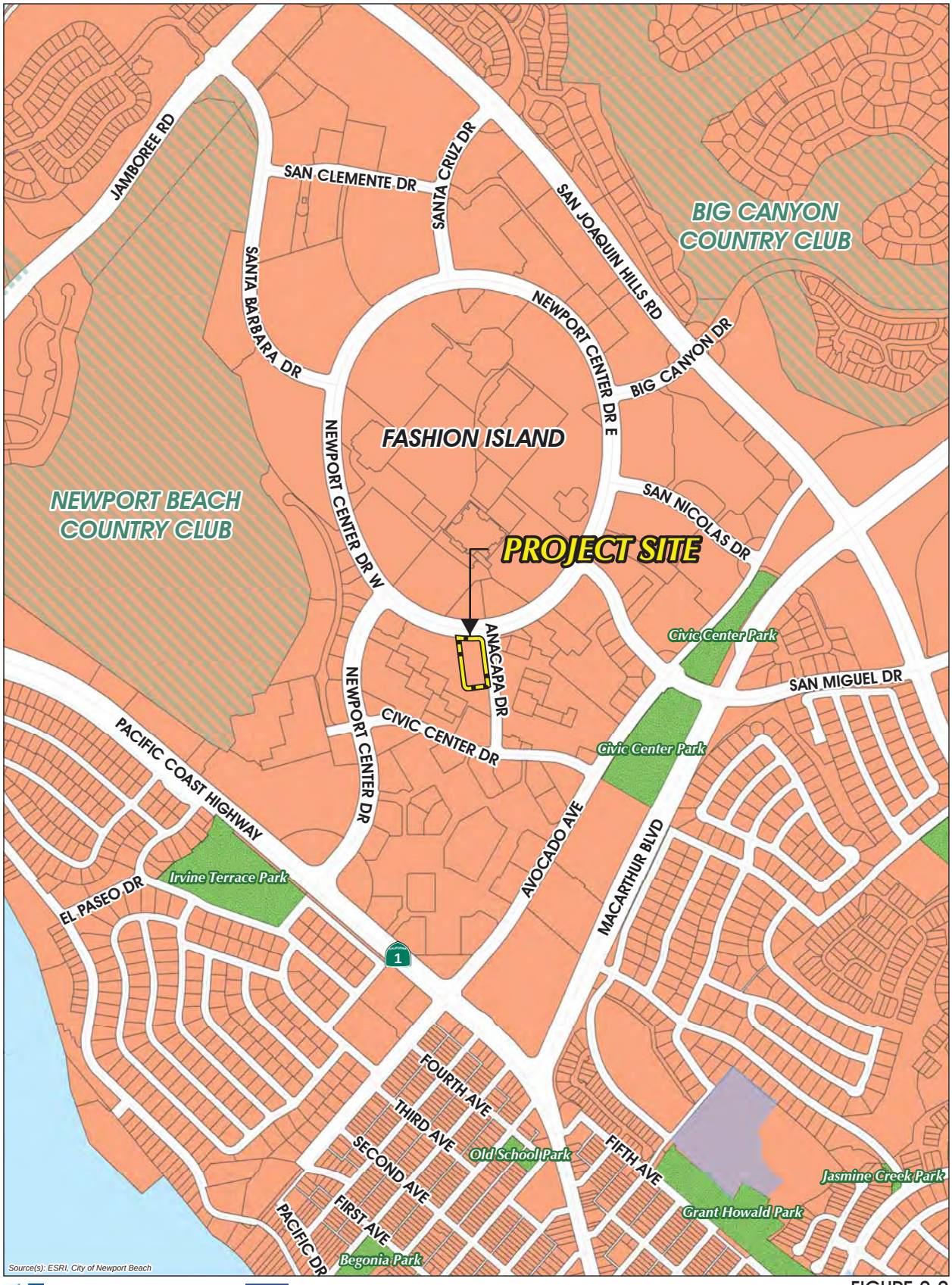


FIGURE 2-2
VICINITY MAP

FIGURE 2-3
AERIAL PHOTOGRAPH

FIGURE 2-4
EXISTING AND SURROUNDING LAND USES

3.0 Project Description

Project Overview

The City of Newport Beach (hereafter "City") received applications from Newport Center Anacapa Associates, LLC (hereafter "Project Applicant") for the development of 49 condominium dwelling units in one seven-story building on a 1.26 acre site. The Project site is bounded by Newport Center Drive to the north and Anacapa Drive to the east. Civic Center Drive and adjacent commercial development occur south of the Project site.

Specifically, the Project Applicant submitted applications for General Plan Amendment No. GP2014-003, Zoning Code Amendment No. CA2014-008, Planned Community Development Plan No. PC2014-004 (referred to as the 150 Newport Center Planned Community Development Plan), Site Development Review No. SD2014-006, Development Agreement No. DA2014-002, and Tentative Tract Map No. NT2015-003, collectively referred to by the City as file number PA2014-213 and which are described in more detail below. These applications (hereafter "Project") would involve the demolition and removal of an existing car wash, ancillary gas station, their associated site improvements, and redevelopment of the site with 49 condominium dwelling units in a seven-story building. The Project is the subject of analysis in this document pursuant to CEQA. In accordance to CEQA Guidelines Section 15367, the City is the Lead Agency with principal responsibility for considering the Project for approval.

Construction would occur over an approximate 18-month duration. Excavation to construct the Project would require the export of approximately 51,600 cubic yards of soil, which would occur over approximately 30 working days. (Nova, 2015b) Soils would be disposed of at the Frank R. Bowerman Landfill in the City of Irvine.

Planned Community Development Plan

The Project applicant proposes a Planned Community (PC) Development Plan. The establishment of a PC is regulated by Chapter 20.56 (Planned Community Development District Procedures) of the City of Newport Beach Zoning Code. The ordinance allows for the diversification of uses as they relate to each other in a physical and environmental arrangement while ensuring substantial compliance with the spirit, intent, and provisions of the Zoning Code.

Section 20.56.020 (Area Requirements) of the Zoning Code identifies a minimum acreage requirement of 10 acres of improved land area for the establishment of a PC District. As allowed by this Zoning Code Section, the Project Applicant is requesting City Council to waive the minimum acreage requirement to establish the proposed PC. The PC District is a designation given to land for which a PC has been prepared and the PC is the document that identifies land use relationships and associated development standards for that particular PC District (Newport Beach, 2015a, Section 20.56.010). The applicant proposes a PC for the Project in an effort to ensure broader coordination and consistency with the surrounding neighborhood, and to include a higher level of architectural quality supporting the Newport Center environment with pedestrian connectivity.

The proposed 150 Newport Center PC Development Plan includes a specific set of standards and procedures for implementation and continuation of dwelling units within Newport Center while ensuring substantial compliance with the spirit, intent, and provisions of the Zoning Code. The proposed 150 Newport Center PC Development Plan is included in its entirety in *Technical Appendix A* to this document.

Project Access/Parking

A guest entrance driveway is proposed with direct access from Anacapa Drive along the eastern boundary of the Project site. This entry includes a porte-cochere and is approximately 26 feet wide at the property line and approximately 26 feet in front of the lobby entrance. This entry would support drop-off/pick-up for an optional valet parking service for the residents, with mandatory valet service for guests. The entrance and exit driveways along Anacapa are designed as full access driveways, with the entrance driveway allowing left and right turns into the site from Anacapa Drive, and the exit driveway allowing both left and right turns onto Anacapa Drive. The guest parking spaces would be accessed by the valet via a one way internal ramp at the south end of the driveway and the valet parking spaces would be located on level B-1. Valet service would exit the garage via the south driveway and return the vehicles to the front entry via the porte cochaire off of Anacapa Drive. The Project Applicant submitted a site circulation plan. The lobby is proposed to have a concierge to provide services to residents such as U.S. mail delivery, package delivery, mailing, moving van access, receiving food delivery, and meeting guests.

The primary access for the resident parking area would be located at the southern portion of the building, with entrance/exit driveways accessing the building from a shared driveway south of the Project site along Anacapa Drive. The Project is designed for three levels of parking below-grade. Level B-1 would be partially at grade on the southern edge to allow tenant access. Each residential unit would have a designated private 2-car subterranean garage. Additionally, trash loading would occur at the south entrance to the building.

The Project site's Preliminary Title Report states that the Project site is comprised of Parcels A and B and that Parcel B, located to the south of the Project site, contains a non-exclusive easement for ingress and egress over Parcel A in the City of Newport Beach. The underlying property owner's authorization would be required for any site improvements to this area.

Building Footprint/Height

Refer to the PC Development Plan Text (*Technical Appendix A*), which lists the proposed building setbacks. Above grade setbacks are greater than the setbacks proposed for the parking podium, which would occur below grade and closer to the property lines than the above grade structure. The proposed PC Development Plan provides for a 75 foot 6 inch height limit to accommodate the proposed 49 units in a seven-story building. The PC Development Plan provides height exceptions for the elevator override and mechanical equipment 8 feet above the height limit and architectural projections (such as the parapet) up to 2 feet above the height limit. Thus, the maximum height of the building, including rooftop appurtenances would be 83 feet 6 inches.

Building Mass and Architectural Features

The proposed building's architectural design would break the building mass into two building enclaves linked together by a structure of glass and metal. The roof profile design would be modulated, to reduce the scale of the structure and to provide visual interest and variety. The central building link would step down in height to further break the building mass and reinforce the concept of a crystalline bridge visually linking the two residential enclaves.

The building façade was designed to be compatible with surrounding development in Newport Center. The design would complement, enhance, and be compatible with the adjacent retail and office properties. The exterior would be comprised predominately of a pre-cast concrete façade, stainless steel finishes, and glass. Massing offsets, variations of roof line, varied textures, recesses, articulation, and design accents on the elevation would be integrated in order to enhance the building's architectural style. (Newport Beach, 2015c, p. 4)

Along the Project site's western edge, the grade would fall from the north to the south by exposing a portion of the parking podium garage wall. Along the exposed portion of the above-grade parking garage, the design includes a 3-foot landscape area to soften the scale at this edge. Above the garage, the podium deck would have a planter and walkway that extends over the landscape pocket of the western edge. Guard rails would be designed with an open design to minimize the bulk and scale of structures at this edge. A dog run would be provided for the residents on the ground level at the northwest corner of the Project site.

3.1 Project Technical Characteristics

3.1.1 Demolition

To construct the Project, existing buildings and associated site improvements located on the property would be demolished and cleared from the site. The existing 8,500-square-foot car wash with an ancillary gas station and asphalt/concrete parking area would be demolished to prepare the site for redevelopment. Demolition activities on-site are projected to result in the creation of approximately 80 tons of construction debris, 240 cubic yards of concrete, and 620 cubic yards of asphalt (Nova, 2015b). Demolition activities would occur over a period of approximately one month.

Demolition debris and excavated soils would be disposed of at the Frank R. Bowerman Sanitary Landfill, located at 11002 Bee Canyon Access Road in Irvine (approximately 15 roadway miles from the Project site) (Newport Beach, 2006b, p. 4.14-39). Some demolition materials would also be transported to Dan Copp Crushing, located at 1120 N. Richfield Road in Anaheim (approximately 21 roadway miles from the Project site). Existing steel fuel tanks would be conveyed to a metal scrapping facility and any remnant liquids, including fuel, would be pumped out and disposed of in compliance with all applicable State of California hazardous materials procedures. (Nova, 2015b) The Project would be subject to the City's Recycling Service Fee pursuant to Municipal Code Chapter 2.30 (Recycle Service Fee), which assists the City in meeting its 50% solid waste diversion objective. Refer to Section 4.5.17, Utilities and Service Systems, of this document for additional details about solid waste disposal.

3.1.2 Anticipated Construction Schedule

The Project Applicant estimates that construction activities associated with the Project would occur over an approximately 18-month duration. Construction would include the following phases: grading, evacuation, and shoring; foundation; construction of basement; construction of super structure; waterproofing; installation of exterior finishes; installation of mechanical, electrical, plumbing; installation of interiors; installation of landscape and irrigation; and installation of furniture and equipment.

3.1.3 Off-Site Improvements

Existing ornamental street trees would be removed along both sides of Anacapa Drive and new trees and landscaping would be planted on both sides of Anacapa Drive to provide enhanced landscaping as part of the Project. The existing median located immediately south of the Project site would be filled in and landscaped to direct traffic flow in and out of the proposed southern garage entry/exit. (Project Application Materials, 2015) Property owner authorization for the median south of the Project site would be required as a condition of approval for the Project.

Temporary lane closures may be required on surrounding streets during short periods of the Project's construction period to connect the proposed Project to the existing utility facilities within the roadways. However, the construction of the proposed Project would not require the complete closure of any public or private streets or roadways during construction.

3.1.4 Future Population

According to the Department of Finance, the City of Newport Beach averages approximately 2.24 persons per household (pph) (DOF, 2015). Accordingly, the Project's proposal to develop 49 condominium units would result in an increase to the City's population of approximately 110 persons (49 x 2.24 = 109.76 persons).

3.2 Proposed Discretionary Approvals

The proposed discretionary approvals for the Project are described below.

3.2.1 General Plan Amendment No. GP2014-003

The City of Newport Beach General Plan assigns land uses to all areas of the City. Under existing conditions, the General Plan designates the Project site for "Regional Commercial Office (CO-R)" land uses. As stated in the General Plan, the CO-R land use designation "…is intended to provide for administrative and professional offices that serve local and regional markets, with limited accessory retail, financial, service, and entertainment uses." (Newport Beach, 2006a, p 3-13)

Proposed General Plan Amendment No. GP2014-003 would change the land use designation of the Project site from "Regional Commercial Office (CO-R)" to "Multiple Unit Residential (RM)." As stated in the General Plan, the RM land use designation "…is intended to provide primarily for multi-family residential development containing attached or detached dwelling units" (Newport Beach, 2006a, p. 3-12; Newport Beach, 2006b). An anomaly would need to be established with Table LU2 (Anomaly Locations) authorizing an additional development density of 49 units in Statistical Area L1 for the Project site.

3.2.2 Zoning Code Amendment No. CA2014-008

The City of Newport Beach Zoning Code is contained as Title 20 "Planning and Zoning" of the City's Municipal Code. Under existing conditions, the Project site is zoned "OR (Office Regional Commercial) Zoning District." The gas station on-site is an ancillary use to the car wash, which is permitted via a use permit in the OR zone (Use Permit No. UP1461). Proposed Zoning Code Amendment No. CA2014-008 seeks to apply the "PC (Planned Community District)" zoning designation to the entire 1.26 acre site. According to City Municipal Code Section 20.26.010(B) (Planned Community Zoning District), the PC Zoning District is "…intended to provide for areas appropriate for the development of coordinated, comprehensive projects that result in a superior environment…." The PC Zoning District requirements are met by the Project Applicant's preparation of development standards and plans for the development of the Project site with the proposed 49 unit condominium units in one building, as discussed below.

The base height limits established in Part 2 of the Municipal Code (Zoning Districts, Allowable Land Uses, and Zoning District Standards) may be increased within specified areas with the adoption of a Planned Community District, adoption of a specific plan, or approval of a planned development permit, or site development review. (Newport Beach, 2015a, Section 20.20.060).

3.2.3 Planned Community (PC) Development Plan Text

The Project's proposed PC-Text identifies general conditions and regulations and provides for land use and development regulations for the Project site. To establish a PC, a waiver of the minimum site area of 10 acres of developed land is necessary. The applicant requests that the City Council waive the 10-acre minimum as part of the Project's application. Refer to *Technical Appendix* A, which contains a copy of the proposed PC-Text. The PC-Text is available for public review at the City of Newport Beach

Planning Division, 100 Civic Center Drive, Newport Beach, CA. Where the standards of the PC-Text conflict with the regulations of the NBMC, the regulations contained in the PC-Text would take precedence. The NBMC would continue to regulate all development within the PC when such regulations are not provided within the PC-Text.

3.2.4 Site Development Review No. SD2014-006

Site Development Review No. SD2014-006 is required to fulfill the requirements of NBMC Section 20.52.080 (Site Development Reviews) because the Project would consist of a residential development with five or more dwelling units with a tentative map. The purpose of the site development review is to review the Project plans for compliance with the proposed PC-Text. As part of Site Development Review No. SD2014-006, the City would review the PC-Text and plans, as well as the Project's Tentative Map and Site Plan.

Figure 3-1, *Proposed Site Plan*, identifies the location and orientation of the building, required property line setbacks, and the basement footprint. As shown, the Project includes one multi-story residential building that consists of seven above ground levels and three levels of underground parking. The Site Plan identifies that the building would have a gross floor area of 163,260 square feet. The Project would include 100 residential garage parking stalls (98 stalls required) and 26 visitor parking stalls (25 stalls required). Thus, the Project would meet the City's parking requirement.

3.2.5 Conceptual Grading Plan

Figure 3-2, *Conceptual Grading Plan*, identifies proposed elevations for the lower level garage, the proposed building outline at grade level, as well as the boundary for the proposed basement levels. The plan indicates that the Project's grading operation would excavate 51,600 cubic yards of raw cut, all of which would be exported from the Project site to the Frank R. Bowerman Landfill in the City of Irvine. The Conceptual Grading Plan also identifies that the Project's access driveways off of Anacapa Drive would be 26 feet in width and the Project's driveway for residential underground parking would be 26 feet wide.

3.2.6 Tentative Tract Map No. 17555 (NT2015-003)

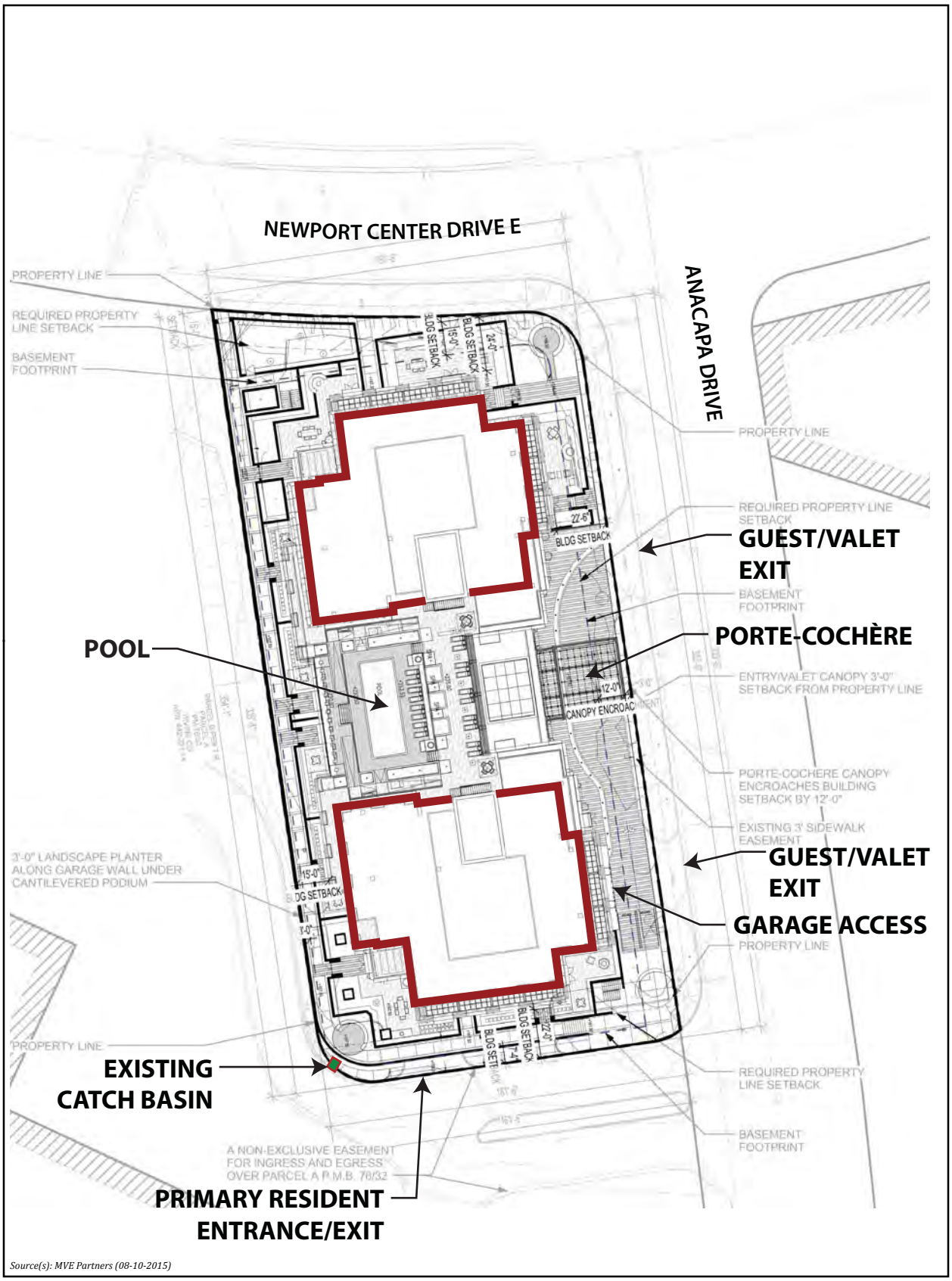
The applicant proposes a condominium subdivision map to establish a 49-unit residential condominium tract on the 1.26 acre Project site. Tentative Tract Map No. 17555 provides a legal description for the Project site and shows the location of the following: proposed and existing sewer lines, sewer lateral, existing driveway easements, fire hydrants, domestic and irrigation water lines, fire water lines, electric vaults, and the location of the existing building on-site to be demolished.

3.2.7 Development Agreement No. DA2014-002

The Project Applicant and the City of Newport Beach propose to enter into a Development Agreement related to the proposed Project. California Government Code Sections 65864-65869.5 authorizes the use of development agreements between any city, county, or city and county, with any person having a legal or equitable interest in real property for the development of the property. The Development Agreement would provide the Project Applicant with assurance that development of the Project may proceed subject to the rules and regulations in effect at the time of Project approval. The Development Agreement also would provide the City of Newport Beach with assurance that certain obligations of the Project Applicant will be met, including but not limited to, how the Project will be phased, the required timing of public improvements, the Applicant's contribution toward funding community improvements, and other conditions.

3.2.8 Approvals Required from Other Agencies

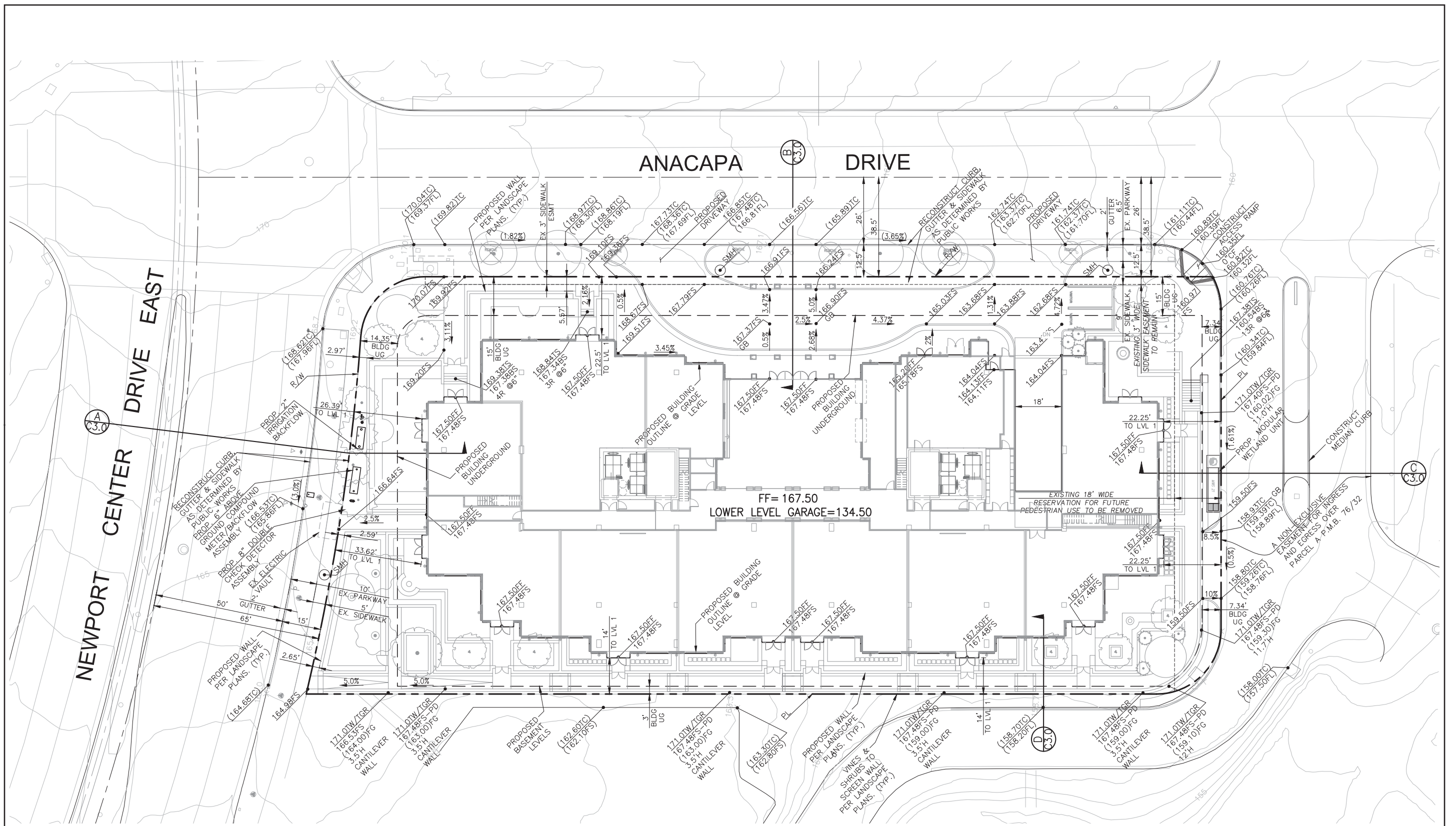
The Project would require a National Pollutant Discharge Elimination System (NPDES) Permit from the Santa Ana Regional Water Quality Control Board (RWQCB) because NPDES permits apply to construction sites of one acre or more (CA RWQCB, n.d., p. 9) and Project construction would disturb more than one acre of land. The Project would require approval from the Orange County Health Care Agency (OCHCA), as this agency oversees the underground storage tank inspection program throughout Orange County, including the City of Newport Beach, and underground tanks are proposed to be removed from the Project site during the construction process (OCHCA, 2015). Although a portion of the Project site falls within the AELUP Notification Area for JWA, Airport Land Use Commission (ALUC) review is not required because the Project would not exceed the FAR Part 77 height restriction of 200 feet, and the Project would not penetrate the 100:1 imaginary surface for notification. Thus, the project is not located within the Planning Area requiring ALUC review.



Source(s): MVE Partners (08-10-2015)

NOT TO SCALE

FIGURE 3-1
PROPOSED SITE PLAN



Source(s): MVE Partners (08-10-2015)

NOT TO SCALE

FIGURE 3-2
CONCEPTUAL GRADING PLAN

4.0 Environmental Checklist and Analysis

Provided on the following pages is an Environmental Checklist, based on *Technical Appendix G* of the State CEQA Guidelines. The Checklist evaluates the Project's potential to result in significant adverse effects to the physical environment. As concluded by the Checklist, the proposed Project has the potential to result in significant environmental effects. Accordingly, and pursuant to CEQA Guidelines § 15063(b)(1), an **Environmental Impact Report** will be prepared for the Project.

4.1 Project Information

1. Project Title

150 Newport Center

2. Lead Agency Name and Address

City of Newport Beach
Community Development Department
Planning Division
100 Civic Center Drive
Newport Beach, CA 92660

3. Contact Person and Phone Number

Ms. Makana Nova, AICP, Associate Planner
City of Newport Beach Planning Division, (949) 644-3249

4. Project Location

The Project site consists of a 1.26 acre site bounded by Newport Center Drive to the north and Anacapa Drive to the east, within the City of Newport Beach's Newport Center/Fashion Island Sub-Area (Statistical Area L1). The site's existing address is 150 Newport Center Drive, Newport Beach, CA 92663. Figure 2-1 and Figure 2-2 (previously presented) depict the Project site's location.

5. Project Sponsor's Name and Address

Newport Center Anacapa Associates, LLC
901 Dove Street, Suite 270
Newport Beach, CA 92660

6. General Plan Designation

Regional Commercial Office (CO-R)

7. Zoning

OR (Office Regional Commercial) Zoning District

8. Description of Project

Please refer to Section 3.0 for a detailed description of the Project.

9. Surrounding Land Uses and Setting

As previously discussed and presented on Figure 2-4, the Project site is located within a portion of the City of Newport Beach that is fully developed with a variety of office, and commercial land uses. The Project is bordered by Anacapa Drive on the west, Newport Center Drive on the north, a parking lot on the west and low rise office buildings on the south. Refer to Section 2.2.3, Surrounding Land Uses and Development, for details.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financing approval, or participation agreement)

The City of Newport Beach would be responsible for issuing ministerial approvals for the Project, including (but not necessarily limited to) the following: final map(s), grading permit(s), and building permit(s). An encroachment agreement may be needed for approval by the City Council for the proposed improvements along Anacapa Drive and Newport Center Drive because tie-backs are proposed that would encroach into these streets to connect water and sewer lines from the Project site (Nova, 2015a). The Project also would require issuance of a NPDES Permit from the Santa Ana RWQCB. The Orange County Health Care Agency would be responsible for reviewing plans for the removal of the existing underground storage tanks associated with the gas station. Although a portion of the Project site falls within the John Wayne Airport notification area, the proposed building height does not penetrate the 100:1 imaginary surface for notification and thus, the Project does not fall within the Planning Area requiring Airport Land Use Commission review. The Project would not require discretionary review or approval by any other public agencies. However, as a condition of approval for the Project, the adjacent property owner's authorization would be required to allow improvements to the shared driveway located in the 100 Block of Newport Center Drive immediately south of the Project site and for street tree improvements across Anacapa Drive.

4.2 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," as indicated by the checklist on the following pages.

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

4.3 Determination (To Be Completed By the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the proposed Project could have a significant effect on the environment, there will not	☐

be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☒
I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact 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. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.	☐

Submitted by: Makana Nova, Associate Planner, Planning Division (Signature) — Date: 01/06/2016

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described in (5) below, may be cross-referenced).

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (d). In this case, a brief discussion should identify the following:

   (a) Earlier Analysis Used. Identify and state where they are available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The analysis of each issue should identify: (a) the significance criteria or threshold used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significance.

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4.4 City of Newport Beach Environmental Checklist Summary

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
I. AESTHETICS				
Would the Project:				
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?	☑	☐	☐	☐
II. AGRICULTURE AND FOREST RESOURCES				
Would the Project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
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 12220(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 conversion of forest land to non-forest use?	☐	☐	☐	☑
III. AIR QUALITY				
Would the Project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☑	☐	☐	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b)	*Violate any air quality standard or contribute 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?*	☐	☐	☑	☐
IV. BIOLOGICAL RESOURCES					
Would the Project:					
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 impeded 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?*	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
V.	**CULTURAL RESOURCES**				
Would the Project:					
a)	*Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?*	☐	☐	☐	☑
b)	*Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 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?*	☐	☐	☑	☐
VI.	**GEOLOGY AND SOILS**				
Would the Project:					
a)	*Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*	☑	☐	☐	☐
	i) 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.	☑	☐	☐	☐
	ii) Strong seismic ground shaking?	☑	☐	☐	☐
	iii) Seismic-related ground failure, including liquefaction?	☑	☐	☐	☐
	iv) 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 Uniform Building Code (1994), creating substantial risks to life or property?*	☑	☐	☐	☐
e)	*Have soils incapable of adequately supporting the use septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS					
Would the Project:					
a)	*Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*	☐	☐	☑	☐
b)	*Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*	☐	☐	☐	☑
VIII. HAZARDS AND HAZARDOUS MATERIALS					
Would the Project:					
a)	*Create a significant hazard to the public or the environment through 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 which complied 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 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?*	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY					
Would the Project:					
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 a 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 a 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?*	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
X. LAND USE AND PLANNING				
Would the Project:				
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?	☐	☐	☐	☑
XI. MINERAL RESOURCES				
Would the Project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
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?	☐	☐	☐	☑
XII. NOISE				
Would the Project result in:				
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 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?	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☑	☐
XIII. POPULATION AND HOUSING				
Would the Project:				
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?	☐	☐	☐	☑
XIV. PUBLIC SERVICES				
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:				
Fire protection?	☐	☐	☑	☐
Police protection?	☐	☐	☑	☐
Schools?	☐	☐	☑	☐
Other public facilities?	☐	☐	☑	☐
XV. RECREATION				
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑	☐
b) Does the Project include recreational facilities or require the construction of or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☑	☐
XVI. TRANSPORTATION/TRAFFIC				
Would the Project:				
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	☑	☐	☐	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	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 standard 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?*	☐	☐	☐	☑
XVII. UTILITIES & SERVICE SYSTEMS					
Would the Project:					
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?*	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g)	*Comply with federal, state, and local statutes and regulation related to solid waste?*	☐	☐	☑	☐
XVIII.	**MANDATORY FINDINGS OF SIGNIFICANCE**				
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 period 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?*	☑	☐	☐	☐

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4.5 Evaluation of Environmental Impacts

4.5.1 Aesthetics

a) Would the Project have a substantial adverse effect on a scenic vista?

Finding: Potentially Significant Impact. The Project could result in a substantial adverse effect to a scenic vista.

The City of Newport Beach General Plan does not officially designate any scenic vistas. (Newport Beach, 2006b, page 4.1-16); however, many natural features such as the Pacific Ocean and Newport Bay provide open coastal views. The Project site is developed with a car wash, ancillary gas station building, and a surface parking lot that is surrounded by urban development. Figures 4.1-1 through 4.1-3 in the City's General Plan EIR show prominent coastal viewing locations throughout the City as identified through public view points and coastal view roads (Newport Beach, 2006b, page 4.1-2). Additionally, Figure NR 3, Coastal Views, of the Natural Resources Element of the City's General Plan shows that the closest Coastal View Road to the Project site is a portion of Newport Center Drive that runs parallel to Anacapa Drive, about 800 feet west of the Project site. In addition to Newport Center Drive, Figure NR 3 identifies segments of MacArthur Boulevard and Avocado Avenue as Coastal View Roads. The Project site is located approximately 0.3 mile west of MacArthur Boulevard and approximately 0.2 mile west of Avocado Avenue. Additionally, Civic Center Park, located between MacArthur Boulevard and Avocado Avenue, approximately 0.2 mile east of the Project site affords public views of the Pacific Ocean (Google Earth Pro, 2015).

Public views of the Pacific Ocean available near the Project site are limited to views along Newport Center Drive looking toward the west and south (a portion of which is designated as a Coastal View Road), to the west of the Project site. The Pacific Ocean can also be seen from Civic Center Park and portions of Avocado Avenue and MacArthur Boulevard. Due to the topography and existing development within the immediate Project vicinity, views of the Pacific Ocean from Newport Center Drive do not occur along the Project frontage with Newport Center Drive. The portion of Newport Center Drive that provides views of the Pacific Ocean occurs west of the Project site, with views toward the ocean available to the west, away from the Project site. However, because the proposed Project would have the potential to affect views of the Pacific Ocean and Newport Bay from nearby roadways and public viewpoints, potentially significant impacts to scenic vistas could occur. Potential impacts associated with scenic vistas will be evaluated in the EIR.

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Finding: No Impact. The Project has no potential to substantially damage scenic resources in a State scenic highway.

Although there are no State scenic highways in the City of Newport Beach, State Route 1 (Pacific Coast Highway), is identified as Eligible for State Scenic Highway designation (Newport Beach, 2006b, pp 4.1-13 and Caltrans, 2011). Due to intervening development and topography, no portion of Pacific Coast Highway is visible from the Project site in the existing conditions; however, given that the Project's building would be seven stories tall, the upper floors of the proposed structure would be visible from portions of Pacific Coast Highway, in the viewshed looking north toward Fashion Island. As the proposed Project would occur north of Pacific Coast Highway and would be located in a highly urbanized area near other similarly sized buildings in and around Fashion Island, the Project would not result in adverse impacts to views of scenic resources experienced from Pacific Coast Highway.

The Project site is fully developed under existing conditions and does not contain any scenic resources including rock outcroppings or historic buildings listed on or eligible for the National Register of Historic Places. Existing trees located on the site are limited to street trees along the site's public roadway frontages (Newport Center Drive and Anacapa Drive), as well as some on-site hedges/plants that are typical for commercial developments in the Project vicinity. As described in Section 3.0, Project Description, the Project Applicant proposes to replace the street trees provided along the site's frontage with Anacapa Drive. Accordingly, the Project would not substantially damage any scenic resources within a State scenic highway and no impacts associated with this issue would occur.

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

Finding: Potentially Significant Impact. The Project has the potential to degrade the existing visual character or quality of the site.

The Project proposes to redevelop a property that currently contains a car wash and ancillary gas station. The Project would remove the existing improvements and in their place construct a seven-story residential structure in a contemporary architectural style. The proposed building would be higher than immediately surrounding existing buildings, which could result in a degradation of the existing visual character or quality of the site and its surroundings, resulting in a potentially significant impact. Therefore, impacts associated with this issue will be fully evaluated in the EIR.

d) *Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views?*

Finding: Potentially Significant Impact. The Project would introduce a new source light or glare.

Exterior lighting fixtures associated with the proposed Project that would provide nighttime illumination would primarily include lights installed on the building face to illuminate the exterior of the building and lights installed along sidewalks and along Anacapa Drive and Newport Center Drive. The lighting intensity would be expected to increase from what occurs on the site under existing conditions. As the proposed Project would replace a single-story car wash and gas station with a new seven-story residential building, there would be a corresponding increase in lighting levels due to new light sources from within the 49 residential units that could be seen from the exterior though windows, as well as light from fixtures mounted on the building's façade. Thus, the Project could have a potentially significant impact regarding light and glare. This issue will be further addressed in the EIR.

4.5.2 Agriculture and Forestry Resources

a) *Would the Project 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?*

Finding: No Impact. The Project would not impact Farmland and mitigation is not required.

The Project site and surrounding areas do not contain any lands that are mapped by the California Resources Agency as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance ("Important Farmland"). The Project site is designated as "Urban and Built-Up Land." Accordingly,

implementation of the Project would result in no impact to Important Farmlands and has no potential to convert farmlands to non-agricultural use.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Finding: No Impact. The Project has no potential to conflict with agricultural zoning designations or to impact agricultural lands subject to a Williamson Act Contract.

The Project site is currently zoned "OR (Office Regional Commercial) Zoning District." As part of the Project, this existing zoning designation would be changed to "PC (Planned Community District)." Zoning designations surrounding the Project site include PC-56 (North Newport Center Planned Community) to the north, PC-56 and OR to the south and east, and OR to the west (Newport Beach, 2010b). There are no existing or proposed agricultural zoning designations affecting the Project site or surrounding areas. As such, the Project has no potential to conflict with agricultural zoning designations, and no impact would occur.

According to information available from the California Department of Conservation (CDC), there are no agricultural lands subject to a Williamson Act Contract within the City of Newport Beach. Accordingly, the Project would have no potential to conflict with lands subject to Williamson Act contracts. (CDC, 2012)

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Finding: No Impact. The Project has no potential to conflict with existing forest land, timberland, or timberland zoned Timberland Production acres.

There are no lands within the City of Newport Beach, including the Project site and properties surrounding the Project site, that are zoned for forest land, timberland, or timberland zoned Timberland Production (Newport Beach, 2010b). Accordingly, the Project has no potential to impact properties zoned for forest land or timberland.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use

Finding: No Impact. The Project would not result in the loss of forest land or conversion of forest land to non-forest use.

The City of Newport Beach, including the Project site and properties surrounding the Project site, does not contain any forest lands (Newport Beach, 2006b, Table 3-2). The Project site occurs within a highly urbanized portion of the City of Newport Beach surrounded by developed properties. Accordingly, the Project has no potential to result in the loss of forest land or convert forest land to non-forest use.

e) Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Finding: No Impact. The Project would not involve any changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or the conversion of forest land to non-forest use.

As indicated in the analysis presented above under the discussion and analysis of Thresholds a) through d) of this section, the Project site and surrounding areas do not contain any lands that are used for farmland or forest land. Accordingly, the Project would not 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 the conversion of forest land to non-forest use. No impact would occur.

4.5.3 Air Quality

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Finding: Potentially Significant Impact. The Project has the potential to conflict or obstruct implementation of the South Coast Air Quality District 2012 air quality management plan (AQMP).

The proposed Project would replace an existing car wash and ancillary gas station with a new residential building, which may have the potential to exceed applicable AQMP thresholds during construction and/or operation. Therefore, impacts associated with the applicable air quality plan would be potentially significant and will be analyzed in the EIR.

b) Would the Project violate any air quality standard or contribute to an existing or projected air quality violation?

Finding: Potentially Significant Impact. Construction and operation of the Project could violate air quality standards or contribute to an existing or projected air quality violation.

Construction activities associated with the Project could result in emissions of carbon monoxide (CO), volatile organic compounds (VOCs), oxides of nitrogen (NOx), sulfur oxides (SOx), particulate matter 2.5 microns in diameter or less ($PM_{2.5}$), and particulate matter 10 microns in diameter or less (PM_{10}) during demolition, site preparation, grading, building construction, paving, and painting activities. Additionally, operational activities associated with the proposed Project could result in emissions of reactive organic gases (ROG), NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ from area source, energy source, and mobile source emissions. The construction and operational emissions associated with the proposed Project could violate air quality standards or contribute to an existing or Project air quality violation, resulting in a potentially significant impact.

c) Would the Project 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)?

Finding: Potentially Significant Impact. Construction and operation of the Project could result in a cumulatively considerable net increase of criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

The South Coast Air Basin (SCAB) has a non-attainment status under both state and federal designations for ozone and $PM_{2.5}$, and is considered non-attainment under State of California criteria for PM_{10}. Construction and operational emissions of VOCs, NO_x, and CO (all of which are ozone precursors), SO_x, PM_{10} and $PM_{2.5}$ could exceed the SCAQMD regional significance thresholds. Therefore, near-term construction emissions and long-term operational emissions have the potential to contribute to a net increase of criteria pollutants for which the Project's region is in non-attainment and

impacts associated with this issue are potentially significant. This issue will be further addressed in the EIR.

d) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Finding: Potentially Significant Impact. During construction, the Project could expose sensitive receptors to substantial construction-related pollutant concentrations. Under long-term conditions, the Project could expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors can include land uses such as long-term health care facilities, rehabilitation centers, and retirement homes. In addition, residences, schools, playgrounds, child care centers, and athletic facilities can also be considered as sensitive receptors. Due to the Project's potential to generate emissions during the construction phase, the Project could have a potentially significant impact to sensitive receptors in the vicinity of the Project site. Additionally, the operation of the proposed Project would generate air quality emissions that could have a potentially significant impact on sensitive receptors.

e) Would the Project create objectionable odors affecting a substantial number of people?

Finding: Less-than-Significant Impact. Impacts associated with odors generated during the Project's construction and long-term operation would be less than significant, and mitigation is not required.

The Project would include the redevelopment of an existing developed property with 49 condominium units in one building. The Project does not propose any land uses typically associated with emitting objectionable odors. Land uses generally associated with odor complaints include agricultural uses (livestock and farming), wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, dairies, and fiberglass molding facilities, none of which would occur on the property.

The potential for odor sources associated with the Project are limited to construction equipment exhaust and the application of asphalt and architectural coatings during construction activities, and the temporary storage of typical municipal solid waste (refuse) during the Project's lifetime

Construction-related odors would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phases of construction activity. These odors are common in urban and suburban areas and are generally not objectionable to a large majority of the population. For these reasons, temporary and intermittent construction-related odors would be less than significant.

During long-term Project operation, the only potential for odor generation is from temporary refuse storage. However, solid waste collection requirements in the City of Newport Beach require all refuse containers to be covered with a watertight lid, which minimizes odor. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. The Project would be required to comply with Municipal Code Section 20.30.120 (Solid Waste and Recyclable Materials Storage), which mandates that all multi-unit projects with five or more dwelling units "…provide enclosed refuse and recyclable material storage areas with solid roofs." (Newport Beach, 2015a) The applicant proposes a trash room

on level B1. Levels B-1 through B-3 each have separate trash areas. Trash rooms within the basement areas will minimize impacts to residents within their living units. The potential for objectionable odors to emanate from the Project's refuse containers would be very slight and no different than the potential for refuse-related odors from other residential land uses in the City of Newport Beach. Therefore, impacts associated with odors from Project operation would be less than significant.

4.5.4 Biological Resources

a) Would the Project 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?

Finding: Potentially Significant Impact. The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.

Improvements proposed as part of the Project would occur wholly within the 1.26 acre Project site, along the site's frontage with surrounding streets, and in the adjacent property to the south. Ornamental on-site trees and street trees along Anacapa Drive and Newport Center Drive would be removed. The Project's potential to impact candidate, sensitive, or special status species will be analyzed in the EIR.

b) Would the Project 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?

Finding: No Impact. The Project would have no potential to impact riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW and USFWS.

The Project site is fully developed with a car wash with an ancillary gas station and does not contain any riparian habitat. The Project site does not contain riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS). The Project site is located in an area that the City's General Plan EIR identified as not containing sensitive biological resources, including riparian habitat. Accordingly, no impact to riparian habitat would occur.

c) Would the Project 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?

Finding: No Impact. The Project would have no impact on federally protected wetlands as defined by Section 404 of the Clean Water Act.

The Project site is fully developed with a car wash with ancillary gas station and does not contain any wetlands. Accordingly, the proposed Project would have no impact 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) Would the Project 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 impeded the use of native wildlife nursery sites?

Finding: Potentially Significant Impact. Due to the Project's proposal to remove existing trees on the Project site, and along both sides of Anacapa Drive, the Project has the potential to have an adverse effect on bird species that could be nesting in trees.

Under existing conditions, the Project site is developed with a car wash, ancillary gas station, and a parking lot and is surrounded by improved roadways (Newport Center Drive and Anacapa Drive) and urban development. Thus, under existing conditions, the Project site and adjacent properties do not provide habitat for native species, are not part of a terrestrial wildlife movement corridor, and do not serve as a native wildlife nursery site. However, ornamental trees are located on and near the site that could provide nesting areas for birds. Due to the proposed median improvements (filling in and landscaping of the existing median), removal of 28 existing trees on the site, and removal of nine street trees along Anacapa Drive (six on the Project side and three on the opposite side of the street), the Project would have the potential to impact migratory bird species that could be nesting in trees at the time of the tree removal, which would result in a potentially significant impact. This issue will be further analyzed in the EIR.

e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Finding: Potentially Significant Impact. The Project could have a significant impact regarding conflict with any local policies or ordinances protecting biological resources.

Implementation of the Project would require the removal of existing street trees located along Anacapa Drive, within the Project site, and vegetation in the existing median to the south of the Project site. These plant materials are ornamental in nature. As the proposed Project includes the removal of street trees, it may conflict with the City's General Plan policies associated with street trees. Therefore, impacts associated with this issue would be potentially significant and impacts will be fully evaluated in the EIR.

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

Finding: No Impact. The Project 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, including the Orange County Central and Coastal Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).

The Project site is located within the Orange County Central and Coastal Orange County NCCP/HCP, which does not identify the Project site and surrounding areas for conservation (Orange County, 1996, Figure 11). Due to the developed nature of the Project site, the site also does not contain any habitat for any of the plant or animal species addressed by the NCCP/HCP. Accordingly, the Project has no potential to conflict with the NCCP/HCP. There are no additional Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans applicable to the Project site or vicinity. Accordingly, no impact would occur.

4.5.5 Cultural Resources

a) Would the Project cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Finding: No Impact. Although the Project would demolish the existing building and remove it from the property, the structure is not a historical resource pursuant to Section 15064.5 of the CEQA Guidelines.

The Project site consists of one existing building (car wash with an ancillary gas station) that would be demolished and removed from the property as part of the Project.

CEQA Guidelines Section 15064.5(a) clarifies that historical resources include the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.
2. A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements [of] section 5024.1(g) of the Public Resources Code.
3. Any object, building, structure, site, area, place, record, or manuscript which a Lead Agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

The City of Newport Beach has listed seven properties in the City of Newport Beach Register of Historical Property (City Register), as shown in Figure 4.4-1 of the General Plan EIR, in recognition of their local historical or architectural significance. The existing car wash and ancillary gas station located on the Project site is not listed in the City Register (Newport Beach, 2006b, Figure 4.4-1). In addition, pursuant to the criteria used by the California State Parks Office of Historic Preservation (OHP), the existing structure on-site is not eligible for inclusion on the California Register of Historical Resources because: 1) it is not associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; 2) it is not associated with the lives of persons important to local, California or national history; 3) it does not embody the distinctive characteristics of a type, period, region or method of construction or represent the work of a master or possess high artistic values; and 4) it has not yielded, nor does it have the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The existing structure also is not included in any local register of historical resources, nor is it identified as significant in the City's Historic Resource Inventory (Newport Beach, 2006a, page 6-11). Moreover, the existing structure is not historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California; rather, the structure consists of relatively modern architectural styles and exhibits no unique architectural characteristics.

There are no other structures on-site that could be considered a historical resource pursuant to CEQA Guidelines Section 15064.5(a). Based on the foregoing analysis, the existing structures and features on the site are not historical resources. Thus, the Project would have no impact to historic resources as defined by CEQA Guidelines Section 15064.5(a) and mitigation is not required.

The goals and policies of the General Plan Historical Resources Element are not applicable to the Project because the Project site does not contain any historical resources (as indicated herein).

Accordingly, the Project would not conflict with any goals or policies of the Historical Resources Element.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Finding: Potentially Significant Impact. There is a remote possibility that archaeological resources could be encountered during site grading activities.

The Project site is fully disturbed and developed with a car wash, ancillary gas station, and a parking lot. The excavation for the proposed subterranean parking structure is estimated to range from approximately 30-40 feet below the proposed final ground surface. Due to the depth of the excavation required for the proposed subterranean parking structure, there is a potential that previously unearthed archeological resources may be encountered where excavation depths exceed the depth of previous construction activities, which could result in a potentially significant impact. The Project's potential impacts regarding this issue will be evaluated in the EIR.

c) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Finding: Potentially Significant Impact. There is a remote possibility that paleontological resources could be encountered during site grading activities.

The excavation for the proposed subterranean parking structure is estimated to range from approximately 30-40 feet below the proposed final ground surface. The Project site is not located in a portion of the City of Newport Beach that is known to contain fossil-bearing soils or rock formations (Newport Beach, 2006b, p. 4.4-17). However, due to the depth of the excavation required for the proposed subterranean parking structure, there is a potential that previously unearthed paleontological resources may be encountered where excavation depths exceed the depth of previous construction activities, which would result in a potentially significant impact. This issue will be further addressed in the EIR.

d) Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Finding: Less-than-Significant Impact. In the remote event that Project construction activities unearth human remains, mandatory compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98(b) would ensure that impacts would be less than significant.

The Project site is fully developed with a car wash, ancillary gas station, and a parking lot. The Project site is not known to have ever been used as a cemetery and the possibility of uncovering human remains during site grading activities is remote due to the previous development at the site. However, in the unlikely event that human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. Pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition is made by the Coroner. If the Coroner determines the remains to be Native American, the California Native American Heritage Commission (NAHC) must be contacted and the NAHC must then immediately notify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours, and engage in consultations

concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. Mandatory compliance with these policies would ensure that potential impacts associated with the discovery of human remains would be less than significant.

4.5.6 Geology and Soils

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

- *i) 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.*
- *ii) Strong seismic ground shaking?*
- *iii) Seismic-related ground failure, including liquefaction?*
- *iv) Landslides?*

Finding: Potentially Significant Impact. The Project could be potentially impacted by seismic events.

As with much of the Southern California region, the Project site is located in a seismically active area. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and is not in an area subject to landslides. However, the proposed structure would be subject to ground shaking during seismic events that would occur during the lifetime operation of the proposed Project that could result in potentially significant impacts associated with strong seismic ground shaking and seismic-related ground failure. Impacts associated with seismic-related hazards will be thoroughly analyzed in the EIR.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

Finding: Potentially Significant Impact. The Project could result in substantial soil erosion or the loss of topsoil during construction.

The proposed demolition and grading activities associated with the Project would temporarily expose underlying soils to water and air, which would increase erosion susceptibility while the soils are exposed. Exposed soils would be subject to erosion during rainfall events or high winds due to the removal of structures, pavement, and/or stabilizing vegetation and exposure of these erodible materials to wind and water. Erosion by water would be greatest during the first rainy season after grading and before the Project's structure foundations are established and paving and landscaping occur. Erosion by wind would be highest during periods of high wind speeds when soils are exposed. The only potential for erosion effects to occur during Project operation would be indirect effects from storm water discharged from the property. Accordingly, impacts associated with erosion would be potentially significant during construction activities. These issues will be further addressed in the EIR.

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

Finding: Potentially Significant Impact. Unstable soil conditions could be encountered during Project construction, resulting in substantial adverse effects.

Due to the fact that the Project site is previously developed, unstable soils conditions could occur on-site due to the potential presence of varying earth units across the site, including fill of varying

composition. Additionally, during Project construction, the excavation for the subterranean parking garage could create a potentially significant impact associated with unstable soils during Project construction. The presence of unstable soils would represent a potentially significant impact, and this issue will be fully analyzed in the EIR.

d) Would the Project 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?

Finding: Potentially Significant Impact. Expansive soils could be encountered during the Project's construction, resulting in substantial adverse effects.

Due to the potential presence of expansive soils on-site, this issue will be further addressed in an EIR.

e) Would the Project have soils incapable of adequately supporting the use septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Finding: No Impact. No septic tanks or alternative waste water disposal systems are located on the site or proposed as part of the Project; accordingly, no impact due to soils incapable of supporting such systems have the potential to occur.

Under existing conditions, the Project site is being served by the City's municipal sewer system. The proposed Project would include facilities that would also connect to the City's municipal sewer system. No septic tanks or alternative waste water disposal systems are proposed as part of the Project; accordingly, no impact would occur.

4.5.7 Greenhouse Gas Emissions

a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Finding: Less-than-Significant Impact. The Project would result in greenhouse gas (GHG) emissions that are below the City of Newport Beach's screening threshold of 3,000 metric tons of CO_2e per year.

Construction Emissions

Construction activities associated with the proposed Project would result in emissions of CO_2 and CH_4 from construction activities. In estimating the potential for GHG emissions, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions, discussed below. (Urban Crossroads, 2015, p. 28)

Operational Emissions

Operational activities associated with the proposed Project would result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Solid Waste

- Water Supply, Treatment and Distribution

The City of Newport Beach relies upon the SCAQMD draft screening level threshold of 3,000 Metric Ton of Carbon Dioxide Equivalent (MTCO2e) per year to determine the significance of GHG emissions on both direct and cumulatively considerable bases; therefore, for purposes of analysis, the proposed Project would have a significant adverse impact on GHG emissions if it would result in excess of 3,000 $MTCO_2e$ per year (Urban Crossroads, 2015, p. 27).

The annual GHG emissions associated with the operation of the proposed Project are calculated to be 539.83 $MTCO_2e$ per year as summarized in Table 4-1 below, and additional information and analysis methodologies are included in *Technical Appendix B* of this Initial Study. As shown, the proposed Project would result in a less than significant impact with respect to GHG emissions because the Project's GHG emissions would be well below the 3,000 $MTCO_2e$ per year threshold. (Urban Crossroads, 2015, p. 30) Thus, Project-related emissions would have less-than-significant direct and indirect impact and less than cumulatively considerable effect on GHG and climate change (Urban Crossroads, 2015, p. 2). Mitigation is not required.

Table 4-1 Total Project Greenhouse Gas Emissions (Annual)

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	27.97	3.67e-3	--	28.04
Area [a]	16.04	0.02	3.50e-4	16.49
Energy [b]	199.23	8.05e-3	2.26e-3	200.10
Mobile Sources [c]	262.41	9.87e-3	--	262.62
Waste	4.58	0.27	--	10.25
Water Usage	19.31	0.10	2.63e-3	22.33
Total CO_2E (All Sources)	539.83			
SCAQMD Draft Screening Level Threshold	3,000 $MTCO_2E$			

Source: Table 3-1, (Urban Crossroads, 2015)
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.
Table results include scientific notation "e" is used to represent *times ten raised to the power of* (which would be written as x 10*b*") and is followed by the value of the exponent
a Includes emissions of landscape maintenance equipment and architectural coatings emissions
b Includes emissions of natural gas consumption
c Includes emissions of vehicle emissions and fugitive dust related to vehicular travel

b) Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Finding: No Impact. The Project would comply with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions; accordingly, no impact due to a conflict with any plans, policies, or regulations adopted for the purpose of reducing GHG emissions would occur.

As indicated in the discussion and analysis above, the Project would generate GHG emissions below the SCAQMD draft screening level threshold of 3,000 MTCO2e that is utilized by the City of Newport Beach for evaluating the significance of a residential development Project's GHG emissions. Additionally, activities associated with the Project would be subject to all applicable federal, state, and regional requirements adopted for the purpose of reducing GHG emissions, including, but not limited to: California Building Standards Code (CBSC) Title 24 Energy Standards (also known as CalGreen);

California Assembly Bill (AB) 1493; Executive Order S-3-05; AB 32; Senate Bill (SB) 1368; SB 97; and the applicable policies of the City's General Plan that reduce GHG emissions. There are no other plans, policies, or regulations adopted for the purpose of reducing GHG emissions that are applicable to the Project area; therefore, the Project would have no potential to conflict with such plans, policies, or regulations. Accordingly, no impact would occur and mitigation is not required.

4.5.8 Hazards and Hazardous Materials

a) Would the Project create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?

b) Would the Project 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?

Finding: Potentially Significant Impact. Demolition of the existing improvements would include the removal of an underground storage tank and the removal of a building that could contain asbestos containing materials, which have the potential to expose construction workers and/or nearby sensitive receptors to health risks during demolition activities.

Potential Impacts Due to Existing Site Conditions

Due to the potential presence of underground storage tank (USTs) on site associated with the gas station component of the car wash, potentially significant impact may occur during the demolition of the existing facility. This issue will be further analyzed in the EIR.

Potential Impacts During Construction and Demolition Activities

Based on the apparent age of the existing structure, it is possible that asbestos containing materials (ACMs) are present in some of the building materials, such as flooring or roofing materials. During demolition of the building, there is a potential that construction workers could be exposed to asbestos materials, which are known to cause human health problems, including cancer. ACMs also have the potential to become airborne during demolition activities, potentially affecting nearby sensitive receptors, which would represent a potentially significant impact. This issue will be further analyzed in an EIR.

Impacts During Long-Term Operation

In the underground parking levels for the proposed Project, storage areas would be provided for use by Project residents. The potential for the storage of any acutely hazardous materials within these storage areas will be analyzed in the EIR.

c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Finding: No Impact. The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The nearest school facility to the Project site is the Harbor View Elementary School, which is located approximately 0.61 mile southeast of the Project site. There are no existing or proposed schools within one-quarter mile of the site. Moreover, the Project Applicant proposes to develop the site with residential land uses, which are not associated with hazardous emissions or the storage or use of acutely

hazardous materials, substances, or waste. Therefore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, and no impact would occur.

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

Finding: No Impact. The Project site is not identified on a list compiled pursuant to Government Code Section 65962.5; therefore, the Project has no potential to create a significant hazard to the public or environment as the result of listed properties.

A review of the California Environmental Protection Agency's (EPA's) Cortese List Data Resources (which lists the facilities/sites identified as meeting the "Cortese List" requirements) the Project site was not identified, thereby indicating that the site is not included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (CalEPA, 2012). Therefore, the Project has no potential to create a significant hazard to the public or the environment due to presence of an existing hazardous materials site identified on a list compiled pursuant to Government Code Section 65962.5, and no impact would occur.

e) *For a Project 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?*

Finding: Less-than-Significant Impact. The Project would result in a less-than-significant impact due to the exposure of people residing or working in the area to safety hazards associated with operations at John Wayne Airport.

John Wayne Airport (JWA) is located approximately 3.6 miles north/northeast of the Project site and is the nearest public airport to the Project site. As detailed in the Airport Environs Land Use Plan (AELUP) for JWA, the northerly one third of the Project site is located within the AELUP Part 77 Notification Area for JWA.

Within the Notification Area boundary, ALUC must be notified of any proposed construction or structural alterations involving a land use or legislative amendment in the AELUP Planning Area, development that exceeds 200 feet above ground level, and all heliports or helistops. In addition, projects that surpass 200 feet above ground level must also file Form 7460-1 with the Federal Aviation Administration (FAA). (OCALUC, 2008, p. 4)

Accordingly, and based on the AELUP, the Project would not result in a safety hazard for people residing or working in the area. The JWA Planning Area is established by four boundaries:

1) Area within the 60 dB CNEL contour
2) Within Runway Protection Zones
3) Within Safety Zones
4) Area that lies above or penetrates the 100:1 imaginary surface for notification.

The Project site does not fall within any of the above boundaries and as such, the Project site is not located within the Planning area of JWA. By applying the imaginary surface slope of 100:1, at this distance from the runway, the Project does not penetrate the imaginary surface extending 100 feet

outward and one foot upward (slope of 100:1) from the JWA runway at a height of 191 feet. Therefore, the Project does not fall within the AELUP Airport Planning Area and does not require ALUC review.

The AELUP establishes requirements for notifying the FAA of certain construction activities and alterations to existing structures within the AELUP Part 77 Notification Area, in order to ensure there are no obstructions to navigable airspace. Within the Notification Area boundary, Part 77 requires that the FAA be notified of any proposed construction or structural alterations having a height greater than an imaginary surface extending 100 feet outward and one foot upward (slope of 100:1) from the JWA runway. Outside the boundary, projects that include construction or structural alterations exceeding 200 feet in height above ground level are required to notify the FAA. (OCALUC, 2008, p. 4) The seven-story building proposed by the Project would be 83 feet 6 inches in height, so FAA notification is not required because the structure does not exceed 200 feet in height.

As the Project site also is not subject to substantial risks from aviation hazards, the proposed Project would also comply with General Plan Safety Element Goal S8. Thus, based on the preceding information, the Project would have a less-than-significant impact.

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?

Finding: No Impact. No private airstrips are located in the vicinity of the Project site; therefore, the Project has no potential to result in a safety hazard for people residing or working in the area caused by private airstrips.

There are no private airstrips within the Project site's vicinity. Accordingly, the Project would not result in a safety hazard for people residing or working in the area caused by private airstrips, and no impact would occur.

g) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Finding: No Impact. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The City of Newport Beach Emergency Operations Plan (EOP) is the only emergency response plan applicable to the Project site. The EOP does not identify any specific requirements for the Project site, nor is the site identified by the EOP as being part of an emergency evacuation route (Newport Beach, 2011, p. 102). McArthur Boulevard is the nearest designated Tsunami evacuation route identified in the City's Emergency Operations Plan, and this road is located southwest of the Project site and does not abut the Project site (Newport Beach, 2011, p. 101).

Although temporary lane closures on surrounding streets may be required during short periods of the Project's construction period to connect the proposed Project to the existing utility facilities within the roadways, the construction of the proposed Project would not require the complete closure of any public or private streets or roadways during construction. Accordingly, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and no impact would occur.

h) Would the Project 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?

Finding: No Impact. The Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. No impact would occur and mitigation is not required.

The City of Newport Beach General Plan Safety Element indicates that the Project site and surrounding areas are considered to have a low or no susceptibility to wildland fire hazards (Newport Beach, 2006a, Figure S4). The Project site is surrounded by highly urbanized uses and is not located adjacent to wildland areas. Accordingly, the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, and no impact would occur.

4.5.9 Hydrology and Water Quality

a) Would the Project violate any water quality standards or waste discharge requirements?

Finding: Less-than-Significant Impact. The Project would not violate any water quality standard or waste discharge requirement.

Information associated with the Project's estimated water demand and waste generation is provided in Section 4.5.17, Utilities and Service Systems.

Construction-Related Water Quality Impacts

Construction of the proposed Project would involve the demolition of the existing car wash structure with ancillary gas station and parking lot on the site. The demolition activity, as well as excavation activities associated with construction of the proposed Project's subterranean parking levels would cause ground disturbance, resulting in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other solvents with the potential to adversely affect water quality. As such, short-term water quality impacts have the potential to occur during construction of the Project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the Santa Ana Regional Water Quality Control Board (RWQCB) and the City of Newport Beach, the Project would be required to obtain a National Pollution Discharge Elimination System (NPDES) Municipal Stormwater Permit for construction activities. The NPDES permit is required for all projects that include construction activities, such as clearing, grading, and/or excavation that disturb at least one acre of total land area. In addition, the Project would be required to comply with the Santa Ana RWQCB's Santa Ana River Basin Water Quality Control Program. Compliance with the NPDES permit and the Santa Ana River Basin Water Quality Control Program involves the preparation and implementation of a Storm Water Pollution Protection Plan (SWPPP) for construction-related activities. The SWPPP would specify the Best Management Practices (BMPs) that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern (including sediment) are prevented, minimized, and/or otherwise appropriately treated on-site prior to being discharged from the subject property. Mandatory compliance with the SWPPP would ensure that the Project does not violate any water quality standards or waste discharge requirements during construction activities. Therefore, water quality impacts associated with construction activities would be less than significant and no mitigation measures beyond mandatory compliance with regulatory standards would be required.

Post Development Water Quality Impacts

The Project would not substantially alter the chemical composition of storm water runoff discharged from the subject property as compared to existing conditions. Storm water pollutants commonly associated with residential land uses include suspended solids/sediments, nutrients, pathogens (bacteria/viruses), pesticides, and trash/debris (Fuscoe, 2015, p. 7). These urban types of storm water pollutants are also characteristic of the land uses that occupy the Project site under existing conditions (i.e., car wash, ancillary gas station, and surface parking lot).

The proposed Project would nominally increase the amount of impervious surface area, thus the Project would increase the amount of storm water runoff discharged from the subject property as compared to existing conditions. Under existing conditions, the Project site is covered by impervious surfaces (80% coverage); with implementation of the Project, the amount of impervious surfaces on the subject property would be increased to 85%. The additional impermeable surface area proposed by the Project would decrease the amount of storm water runoff infiltration on-site as compared to existing conditions thereby increasing the volume of storm water runoff carrying water pollutants that is discharged into downstream receiving waters. However, this nominal increase in storm water discharge volume would not represent a substantial increase in storm water quantity and would not result in a substantial increase in the potential for polluted storm water runoff to occur compared to the existing condition. As detailed in the Project's Preliminary WQMP (*Technical Appendix C*), under the proposed conditions, runoff will continue to drain towards the southwest portion of the site where a new area storm drain section will be constructed on the south, east and northern sections of the site. The new storm drain lines will tie into the existing 10" storm drain and catch basin at the southwest most end of the site. (Fuscoe, 2015, p. 9) Thus, the additional runoff from the Project site would be accommodated by the new storm drain section that will be constructed as part of the Project.

The Project's Preliminary WQMP identifies the inclusion of the following site design BMPs:

> 1. minimize impervious areas: Impervious surfaces have been minimized by incorporating landscaped areas throughout the site including around the perimeter of the proposed structures. Runoff from the proposed development will drain to a landscaped proprietary bioretention area.
>
> 2. preserve existing drainage patterns/time of concentration: Proposed drainage patterns will largely mimic existing drainage patterns. Runoff will flow in a south/ southwest direction and connect to existing storm drain facilities. Low-flows and first flush runoff will drain through a proprietary biotreatment system prior to discharge.
>
> 3. disconnect impervious areas: Runoff from the proposed improvements, buildings and hardscape areas will drain to bioretention systems to further disconnect impervious areas
>
> 4. protect existing vegetation and sensitive areas/revegetate disturbed areas: The Project site is fully developed under existing conditions. All disturbed areas will either be paved or landscaped
>
> 5. use of xeriscaping: native and/or tolerant landscaping will be incorporated into the site design, consistent with City guidelines. (Fuscoe, 2015, pps 15-16).

The following non-structural source control BMPs would be implemented: education for property owners, tenants, and occupants; activity restrictions; common area landscape; BMP maintenance; common area litter control; employee training; common area catch basin inspection; and street sweeping of private streets and parking lots (Fuscoe, 2015, pps 25-26). The following structural source

control BMPs would be implemented as part of the Project: provide storm drain system stenciling and signage; use of efficient irrigation systems and landscape design, water conservation, and use of smart controllers (Fuscoe, 2015, p. 27). The above listed site design BMPs, non-structural source control BMPs, and structural source control BMPs would minimize, prevent, and/or otherwise appropriately treat storm water runoff flows before they are discharged from the site. Mandatory compliance with the WQMP would ensure that the Project does not violate any water quality standards or waste discharge requirements during long-term operation. Additionally, the Project would be required to comply with provisions set forth in the Orange County Drainage Area Management Plan (DAMP), including the implementation of appropriate BMPs identified in the DAMP, to control stormwater runoff on-site so as to prevent any deterioration of water quality that would impair subsequent or competing beneficial uses of the water. (Newport Beach, 2006b, page 4.7-31) Therefore, water quality impacts associated with post-development activities would be less than significant and no mitigation measures would be required.

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b) Would the Project 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)?

Finding: Less-than-Significant Impact. The Project site is not located within a groundwater recharge basin, and implementation of the Project would not result in a significant net deficit in aquifer volume or lowering of the local groundwater table.

No groundwater wells are located on the Project site or proposed as part of the Project. Therefore, implementation of the Project would not deplete groundwater supplies associated with water well withdraw. Additionally, as discussed under Utilities and Service Systems (refer to Section 4.5.17, the Project would use less domestic water in comparison to the demand created by the existing car wash use at the Project site. For these reasons, no impact associated with groundwater supply depletion would occur.

The Project site is not located within a groundwater basin and therefore cannot contribute to the recharge of any regional aquifer or local water table with beneficial potable water uses (Newport Beach, 2006b, Figure 4.7-1 and pp. 4.7-32 to 4.7-33). Implementation of the Project would nominally increase the amount of impervious surfaces on-site from 80% under existing conditions to 85% under proposed conditions. However, given that the Project site is already developed with impervious surfaces since 1970 (Fero, 2013, p. 9), implementation of the Project would not interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. A less than significant impact would occur.

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

Finding: Less-than-Significant Impact. The Project would not substantially alter the existing drainage pattern of the subject property or surrounding area in a manner that would result in substantial erosion or siltation on- or off-site.

The Project site is generally flat and currently drains towards an existing low point at the southwest portion of the site. Elevations vary from a low of 158.5 feet above mean sea level (amsl) in the south-southwest corner to a high elevation of 170.3 feet amsl in the northeast corner. Under existing

conditions, storm water runoff generally sheet flows towards the south-southwest, where an existing 10-inch storm drain line and catch basin intercepts the drainage. With implementation of the Project, the site's existing hydrological characteristics would not be substantially altered; under the proposed conditions, runoff would continue to drain towards the southwest portion of the site where a new area storm drain section would be constructed on the south, east, and northern sections of the site. The new storm drain lines would tie into the existing 10-inch storm drain and catch basin at the southwest end of the site. The storm drain system then discharges into the City Municipal Separate Storm Sewer System (MS4) facility along Civic Center Drive towards Pacific Coast Highway, where it would be conveyed west to the Lower Newport Bay for discharge (Fuscoe, 2015, p. 9). Additionally, as described above under Hydrology and Water Quality Threshold a), the Project would maximize natural infiltration capacity, thereby reducing the total volume and sediment load within on-site surface runoff. Therefore, with buildout of the Project, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in the rates of erosion or siltation on- or off-site. Impacts would be less than significant and no mitigation would be required.

d) *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of a 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?*

Finding: Less-than-Significant Impact. The Project would neither substantially alter the existing drainage pattern of the subject property or surrounding area nor substantially increase the rate or amount of surface runoff discharged from the Project site in a manner that would alter the course of a stream or river or result in flooding on- or off-site.

As described above under Threshold c) of this section, the Project would not substantially alter the drainage pattern of the subject property or the surrounding area. There are no streams or rivers on-site. As detailed in the Preliminary WQMP prepared for the Project (*Technical Appendix C*), the amount of impermeable surfaces on-site would increase from the existing 80% to 85%, with the Project (Fuscoe, 2015, p. 5). However the Project is designed to reduce runoff from the Project site, including the use of detention facilities to prevent surface runoff from the site in a manner that would create flooding on or off-site. Impervious surfaces are minimized by incorporating landscaped areas throughout the site including around the perimeter of the proposed structures. Proposed drainage patterns would largely mimic existing drainage patterns with storm water runoff flowing in a south/southwest direction and connect to existing storm drain facilities. Low-flows and first flush runoff would drain through a proposed biotreatment system prior to discharge. (Fuscoe, 2015, p. 15) Refer to *Technical Appendix C*, *Preliminary Water Quality Management Plan*, for more detailed information. Because the Project would not substantially alter the drainage patterns of the subject property or surrounding area and would not substantially increase the rate or amount of storm water runoff discharged from the site, implementation of the Project would not result in or increase flood hazard risks on- or off-site. Impacts would be less than significant.

e) *Would the Project 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?*

Finding: Less-than-Significant Impact. The Project would not create runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

As discussed above under Thresholds c) and d) of this section, the Project is designed to ensure that post-development runoff rates and volumes closely resemble those that occur under existing conditions.

Under existing conditions, storm water runoff generally sheets flows towards the south-southwest portion of the site and ties into an existing 10-inch storm drain (Fuscoe, 2015, p. 6). Because the existing 10-inch storm drain has sufficient capacity to convey runoff from the Project site under existing conditions, and because the rate and volume of runoff would not substantially increase with buildout of the Project, the Project would not create or contribute runoff which would exceed the capacity of any existing or planned storm water drainage system. Impacts would be less than significant and no mitigation would be required.

As discussed under the analysis of Threshold a) of this section, the Project would be required to comply with a future SWPPP and the Project's Preliminary WQMP (*Technical Appendix C*), which would identify BMPs to be incorporated into the Project to ensure that near-term construction activities and long-term post-development activities of the Project would not result in substantial amounts of polluted runoff. Therefore, with mandatory compliance with the Project's SWPPP and WQMP, the Project would not create or contribute substantial additional sources of polluted runoff, and impacts would be less than significant. No mitigation would be required.

f) Would the Project otherwise substantially degrade water quality?

Finding: Less-than-Significant Impact. The Project would not substantially degrade water quality.

As discussed above under Threshold a) of this section, mandatory compliance with the Project's SWPPP during near-term construction activities and WQMP during long-term post-development activities would reduce the Project's potential to generate substantial amounts of polluted runoff, including runoff containing pollutants of concern for downstream impaired waters to a level below significant. Other than surface storm water runoff from the site, there are no other known sources of pollutants that could adversely affect or degrade water quality. Accordingly, impacts would be less than significant and mitigation is not required.

g) Would the Project 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?

Finding: No Impact. The Project site is not located within a designated 100-year flood hazard area and the Project would not place any housing within a designated 100-year flood hazard zone.

The entire Project site is located within Federal Emergency Management Agency (FEMA) Flood Zone "X (Unshaded)", indicating that the subject property is located outside of the 100-year floodplain and outside the 500-year floodplain (greater than 0.2% annual chance of flooding). No portion of the Project site is located within a designated 100-year flood hazard area (Newport Beach, 2006a, Figure S3) Therefore, the Project would have no potential to place housing within a 100-year flood hazard area. No impact would occur.

h) Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Finding: No Impact. The Project would not place any structure within a designated 100-year flood hazard area which would impede or redirect flood flows.

As discussed under Threshold g) of this section, above, no portion of the Project site is located within a designated 100-year flood hazard area. Accordingly, the Project would not place any structure within a 100-year flood hazard area that could impede or redirect flood flows. No impact would occur.

i) Would the Project 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?

Finding: No Impact. The Project site is not located within an area subject to significant flood hazard risks, and would not 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.

As discussed under Thresholds g) and h) of this section, the Project is not located within a designated 100-year flood hazard zone; therefore, flood flows would not pose a substantial safety risk to people or structures on the Project site. The entire Project site is located within FEMA Flood Zone "X (Unshaded)." Flood Zone X (Unshaded) is an area that is determined to be outside the 0.2% annual chance flood plain (FEMA, 2015); thus, the Project would not subject future residents from either 100-year or 500-year flood hazards. For this reason, future residents, visitors, and employees of the Project would not be exposed to a significant risk of loss, injury, or death as a result of flooding. This flooding risk is the same risk posed to the site and surrounding land uses under existing conditions. Figure S3, *Flood Hazards,* in the City's General Plan does not identify the Project site as being located within a dam inundation flood hazard area (Newport Beach, 2006a, Figure S-3).

Portions of Newport Beach are designated as occurring within the flood inundation areas for Prado Dam, Santiago Creek Reservoir, Villa Park Reservoir, San Joaquin Reservoir, Big Canyon Reservoir, and Harbor View Reservoir (Newport Beach, 2011, p. 62). The Big Canyon Reservoir is the nearest dam to the Project site. As identified in the Dam Failure Inundation Map in the City of Newport Beach Emergency Operations Plan, the Project site is not identified as being within any of the dam failure areas. Additionally, the City's General Plan EIR does not identify the Project location as being within an area subject to potential flooding due to dam or levee failure (Newport Beach, 2006b, p. 4.7-40). Accordingly, the Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding including flooding from the failure of a levee or dam, and a less-than-significant impact would occur.

j) Would the Project expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

Finding: No Impact. The Project would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

The potential for secondary seismic hazards, such as tsunami and seiche are considered very low, as the site is located away from the ocean at an elevation of over 140 feet amsl and outside of mapped tsunami inundation zones. Tsunami run-up areas are identified by the City of Newport Beach as area of elevation that are 32-feet or less (Newport Beach, 2007a). The site is not located adjacent to a confined body of water; therefore, the potential for seismic hazard of a seiche (an oscillation of a body of water in an enclosed basin) is considered very low to nil. As detailed in Figure S1, *Coastal Hazards*, of the City's General Plan Safety Element, the Project site is not located in either a 100-year or 500-year zone for inundation from a tsunami at extreme high tide. Thus, there would be no potential impacts regarding tsunamis. Lands surrounding the Project site are generally characterized as flat and are developed with urban land uses. There are no prominent topographic landforms within the Project vicinity. Accordingly, the Project site is not subject to any mudflow hazards.

Additionally, as impacts associated with tsunami hazards, seiches, and mudflows would be less than significant; thus, the Project would be consistent with General Plan Safety Element Goals S 1 and S 2.

4.5.10 Land Use and Planning

a) Would the Project physically divide an established community?

Finding: No Impact. The Project would not physically divide an established community.

The Project site is bounded on two sides by existing roadways (Newport Center Drive and Anacapa Drive), on one side by a parking lot, and on another side by a complex of low-rise office buildings. Other land uses within the Project vicinity consist of commercial/office land uses, with Fashion Island shopping mall located north of the Project site, across Newport Center Drive. No residential uses are located adjacent to the Project site under existing conditions. The nearest existing residential land use to the Project site is the Granville Private Residential Community, which is a gated community located approximately 0.15 mile to the west. The Project would establish a new residential building on a site that is currently used for a car wash and ancillary gas station. As such, the Project has no potential to physically divide an established community and no impact would occur.

b) Would the Project 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?

Finding: Potentially Significant Impact. The proposed could result in a conflict with the City's General Plan and Zoning Ordinance.

Under existing conditions, the Project site is zoned "OR (Office Regional Commercial) Zoning District." Proposed Zoning Code Amendment No. CA2014-008 would apply the "Planned Community District (PC)" Zoning district to the entire 1.26 acre site and establish development standards for building heights and setbacks that vary from the height and setback standards of the City's Zoning Code. The implementation of the proposed Project would have the potential to conflict with policies identified in the General Plan, as well as with the City's Zoning Code, which would result in a potentially significant impact.

c) Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan?

Finding: No Impact. There are no policies of the Orange County Central and Coastal Orange County NCCP/HCP that are applicable to the Project.

The Project site is located within the Orange County Central and Coastal Orange County NCCP/HCP, which does not identify the Project site and immediate surrounding areas for conservation (Orange County, 1996, Figure 11). The Project site has maintained its existing uses since the 1970s. Due to the developed nature of the Project site under existing conditions, the site also does not contain any habitat for any of the plant or animal species addressed by the NCCP/HCP. Accordingly, the Project has no potential to conflict with the NCCP/HCP. There are no additional Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans applicable to the Project site or vicinity. Accordingly, no impact would occur.

4.5.11 Mineral Resources

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

Finding: No Impact. The Project would not 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.

The Project site is developed with urban uses. No mines, wells, or other resource extraction activity occurs on the property or is known to have ever occurred on the property. According to the City's General Plan EIR, which relies on mapping conducted by the California Geological Survey for areas known as Mineral Resources Zones (MRZs), the Project site is mapped as being on the boundary between MRZ-1 and MRZ-3. Areas mapped MRZ-1 are defined as "areas where available geologic information indicates that there is little or no likelihood for presence of significant mineral resources." Areas mapped MRZ-3 are defined as "areas containing mineral deposits of undetermined significance." (Newport Beach, 2006b, Figure 4.5-4) Accordingly, implementation of the Project would not 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, and no impact would occur.

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

Finding: No Impact. The Project would not 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, and no impact would occur.

The Project site is not identified as a locally-important mineral resource recovery site delineated on the City's General Plan, a specific plan, or other land use plan. Accordingly, no impact would occur.

4.5.12 Noise

a) Would the Project result in the 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?

Finding: Potentially Significant Impact. The Project has potential to result in significant noise impacts from Project construction and operation.

The Project site generates noise under existing conditions in relation to the existing vehicle traffic (discussed below), as well as noise from the car wash such as the dryer for the vehicles and compressed air that is used to detail the vehicles. The proposed Project would remove the existing car wash use and would construct a residential building. The potential for impacts associated with noise during construction and operation of the proposed Project is described below.

Construction Noise

Construction noise is explicitly exempted from the noise standards specified in NBMC Section 10.26.035(D), provided such activities adhere to the timing restrictions specified in NBMC Chapter 10.28.040. Accordingly, impacts would be less than significant.

Operational-Related Noise

Residential land uses are not typically associated with the generation of substantial stationary noise. However, The Project has the potential to contribute to off-site noise levels resulting from vehicular traffic that would be generated by the residents, which may represent a potentially significant impact. Additionally, the proposed Project may result in the exposure of residents within the Project site to potentially significant noise from surrounding roadways.

b) Would the Project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Finding: Less-than-Significant Impact. Impacts associated with excessive groundborne vibration or groundborne noise levels during Project construction and long-term operation would be less than significant.

The only potential source of ground-borne vibration associated with the Project would occur as a result of construction activities, during which large machinery would be utilized in support of Project excavation and grading activities. However, construction activities associated with the Project would not require the use of pile drivers, rock crushers, or blasting, which are the primary sources of vibration-related impacts during construction. As such, groundborne vibration and noise impacts during construction would be less than significant.

Additionally, there are no sources of groundborne vibration or groundborne noise in the Project area, such as railroad lines. Accordingly, future Project residents also would not be subject to excessive groundborne vibration or groundborne noise levels and impacts associated with this issue would be less than significant.

c) Would the Project result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Finding: Less-than-Significant Impact. The Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Residential uses typically do not generate substantial amounts of ambient noise. Any unusual noise generated by individual residents would be regulated by Chapter 10.28 (Loud and Unreasonable Noise) of the Municipal Code, and any future residents that violate the provisions of Chapter 10.28 would be subject to penalties as set forth in the ordinance. Residential uses can result in an increase in ambient noise levels due to an increase in vehicular trips in the Project area. The Project would generate less traffic when compared to the existing car wash use, thereby reducing the amount of vehicular-related noise affecting off-site areas. Therefore, the Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts would be less than significant.

d) Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Finding: Less-than-Significant Impact. With mandatory adherence to the timing provisions of Municipal Code Section 10.28 during construction activities, Project impacts due to a temporary or periodic noise increase would be reduced to below a level of significance.

As indicated above under the discussion of Thresholds a) and b) of this section, demolition of the existing buildings on-site and construction of the Project would involve the use of heavy construction equipment that has the potential to result in a substantial temporary increase in ambient noise levels. However, construction noise is explicitly exempted from the noise standards specified in NBMC Section 10.26.035(D), provided such activities adhere to the timing restrictions specified in NBMC Chapter 10.28.040, Construction Activity-Noise Regulations (Newport Beach, 2015a). There are no potential sources of temporary or periodic noise increases associated with long-term operation of the Project, as the Project would involve the operation of 49 condominium homes, which are not associated with the generation of substantial amounts of temporary or periodic noise increases. Accordingly, impacts would be less than significant.

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?*

Finding: No Impact. The Project would not expose people residing or working in the Project area to excessive airport-related noise levels.

The only airport in the vicinity of the Project site is John Wayne Airport, which is located approximately 3.6 miles north/northeast of the Project site. As shown on Figure N4 of the Newport Beach General Plan, and as similarly presented on the Airport Impact Zones exhibit of the AELUP, the Project site is not subject to airport-related noise levels exceeding 60 A-weighted decibels (dBA) community noise equivalent level (CNEL) (Newport Beach, 2006a, Figure N4; OCALUC, 2008, Appendix D). Accordingly, the Project would not expose people residing or working in the Project area to excessive airport-related noise levels, and thus there would be no impacts in this regard.

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?*

Finding: Less-than-Significant-Impact. There would be a less than significant impact due to the exposure of people residing or working in the area to excessive noise levels associated with private airstrips.

There are no private airstrips within the vicinity of the Project site. Accordingly, there would be a less than significant impact due to the exposure of people residing or working in the area to excessive noise levels associated with private airstrips.

4.5.13 Population and Housing

a) *Would the Project 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)?*

Finding: Less-than-Significant Impact. The Project would provide for an additional 49 condominium units within one building in Newport Center, but the population accommodated by the Project would not result in population growth that would adversely affect the physical environment.

Southern California Association of Governments (SCAG) prepared a Regional Housing Needs Assessment (RHNA) for 2014-2021 to identify the housing need for each jurisdiction within the SCAG

region in the 2014–2021 period. To accommodate projected growth in the region, SCAG estimates that the City of Newport Beach needs to target its housing unit production to accommodate a total of five new housing units, as follows: one (1) "Very Low" income unit, one (1) "Low" income unit, one (1) "Moderate" income unit, and two (2) "Above Moderate" income units. (Newport Beach, 2006b, Table H31, page 5-44) As demonstrated in Table H32, the City has sufficient sites to accommodate the City's 2014-2021 RHNA allocation. The Housing Element of the City's General Plan has not previously identified the Project site as a housing opportunity site. The proposed Project would provide for 49 housing units in one building; accordingly, the Project would be consistent with the General Plan Housing Element by assisting the City in meeting its housing needs, as encouraged by Housing Element Goal H3. The Project would be consistent with, or otherwise would not conflict with, all applicable goals and policies of the General Plan Housing Element.

According to the Department of Finance, the City of Newport Beach has an average household size of 2.24 persons (DOF, 2015). The Project Applicant proposes to redevelop the site with 49 new condominium units in one building, which would result in a population increase of approximately 110 persons. Although the Project would result in an increase in the City's population by approximately 110 persons, this increase represents only a 0.123% increase over the City's estimated Department of Finance (DOF) 2015 population (DOF, 2015). Additionally, none of the improvements proposed as part of the Project would foster an indirect increase in the City's population. The vicinity of the Project site is an urbanized area that already includes a variety of land uses, including office, retail (Fashion Island), restaurant, entertainment, and commercial land uses. The population that the Project would accommodate is not substantial and would not adversely affect the surrounding physical environment. As such, population growth impacts would be less than significant.

b) Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Finding: No Impact. Implementation of the Project would not displace any existing housing, necessitating the construction of replacement housing elsewhere.

There are no residences on-site under existing conditions. Accordingly, implementation of the Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, and no impact would occur.

c) Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Finding: No Impact. Implementation of the Project would not displace any existing housing, necessitating the construction of replacement housing elsewhere, and no impact would occur.

There are no persons living on-site under existing conditions. Accordingly, implementation of the Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, and no impact would occur.

4.5.14 Public Services

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection?

Finding: Less-than-Significant Impact. The Project would be adequately served by the City's existing fire protection facilities, and the Project would not result in nor require the expansion or construction of any new fire protection facilities.

Under existing conditions, the Project site's existing car wash and ancillary gas station generates a negligible demand for fire protection services. Implementation of the Project could result in an increase in the site's existing demand for fire protection services (due to medical emergencies and fire protection needs associated with residential uses). Due to the limited scale of the Project being 49 condominium units in one building, the addition of approximately 110 persons on the Project site would not significantly impact response times because the Project site would be adequately served by existing Fire Department services. Additionally, the Project would replace an existing commercial use which generates an existing demand for fire protection services in the existing condition. Based on the most recent available information from 2015, the Newport Beach Fire Department's (NBFD's) average response times for priority incidents requiring full personal protective equipment was 6 minutes and 34 seconds. For priority incidents not requiring full personal protective equipment, the average response time was 4 minutes 54 seconds. (Newport Beach, 2016). According to the NBFD, there are no deficiencies in the level of fire protection service currently provided to the City, and no plans for additional fire stations. (Nova, 2015c)

The proposed building would be constructed in accordance with current fire codes, and would replace the older on-site building that was constructed in 1970. Older buildings prior to the enactment of current fire codes have fewer fire protection features than do buildings of a more modern construction. The nearest fire station to the Project site is Fire Station No. 3, located at 868 Santa Barbara Drive, approximately one roadway mile northwest of the Project site. Due to the Project's location approximately one mile from an existing fire station in Newport Center, the Project would be adequately served by existing fire services and no new or expanded facilities are warranted. The Project would be required to comply with City of Newport Beach Fire Department Project conditions of approval, including but not limited to the requirement to provide an exclusive off street staging area for emergency vehicles, the height and width of which would need to be sufficient to accommodate a fire engine and medic unit. The Project would provide a minimum width of emergency access area (20 feet) to accommodate ladder truck stabilizers (Nova, 2015b). Thus, the Project would comply with all required conditions of approval from the City's Fire Department. Accordingly, implementation of the Project would be adequately served by the City's existing fire protection facilities, and the Project would not result in nor require the expansion or construction of any new fire protection facilities. Therefore, a less-than-significant impact would occur.

b) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection?

Finding: Less-than-Significant Impact. Implementation of the Project would not result in nor require the expansion or construction of any new police protection facilities.

Under existing conditions, the Project site's existing car wash and ancillary gas station generates a negligible demand for police protection services. Upon implementation of the Project, the existing car wash would be demolished and replaced with one condominium building. The applicant proposes to develop the site with 49 new condominium units, which would result in a population increase of approximately 110 persons (Newport Beach, 2006b, p. 4.10-3).

Implementation of the Project is anticipated to result in a slight increase in the site's existing demand for police protection services. Due to the limited scale of the Project being 49 condominium units on one building, the addition of approximately 110 persons on the Project site would not significantly impact response times because the Project site would be adequately served by existing police protection facilities. The Newport Beach Police Department's (NBPD's) goal response time for emergency calls is immediate and never over five minutes. For nonemergency calls, the goal response time is within 15 minutes or less when resources are available. In 2014, the average response time to a top priority call was 2 minutes, 55 seconds from the moment the call was received until an Officer arrived on scene. Thus, the NBPD is responding to all calls within the prescribed goal response time and adequately serving the City's needs. (Nova, 2015c) Additionally, the proposed residential building would replace a commercial land use at the Project site that generates an existing demand for police protection services in the existing condition. Considering the small increase to the City's resident population, the Project would not measurably alter the City's ratio of officers to residents. As noted in the General Plan EIR, the General Plan "…contains policies to ensure that adequate law enforcement is provided as the City experiences future development. For example, Policy LU 2.8 ensures that only land uses that can be adequately supported by the City's Public Services should be accommodated. Compliance with this policy would ensure that adequate service ratios are maintained." (Newport Beach, 2006b, p. 4.11-16). The nearest Police station to the Project site is the City's Police Department, located at 870 Santa Barbara Drive, approximately one roadway mile northwest of the Project site. Due to the Project's location approximately one mile from an existing Police station in Newport Center, the Project would be adequately served by existing police protection facilities and no new or expanded facilities are warranted. Based on the foregoing information, the Project would not result in substantial adverse physical environmental impacts and would not hinder the City's police protection performance objectives. Implementation of the Project would not result in nor require the expansion or construction of any new police protection facilities and as such, a less-than-significant impact would occur.

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c) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools?

Finding: Less-than-Significant Impact. The Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for schools.

Under existing conditions, the Project site is occupied by a car wash and ancillary gas station, which does not generate any demand for school services. The Project would result in the construction of 49 condominium units on the site in one building, which would generate an increased demand for school services. Based on the student generation rates assumed in the General Plan EIR, the Project's 49

condominiums would generate approximately eleven new elementary school students, six middle school students, and six high school students[1] (Newport Beach, 2006b, p. 4.11-23).

The City of Newport Beach is served by the Newport-Mesa Unified School District (NMUSD), which operates Corona Del Mar High School (grades 7-12), located at 2010 Eastbluff Drive in Newport Beach, and Lincoln Elementary School (grades K-6), located at 3101 Pacific View Drive in Corona Del Mar. Based on the school district's school locator application, students from the Project would attend Corona Del Mar High School and Lincoln Elementary School (NMUSD, 2015). The most recent information from the California Department of Education shows that the current (2014-2015) school year enrollment at Corona Del Mar High School is 2,557 students and 620 students at Lincoln Elementary School (CA Dept of Education, 2014). Thus, the students who would be added to these schools from the Project are estimated to be fourteen students, an approximate 0.35% increase in student enrollment at Corona Del Mar High School and nine students, an approximate 2.3% increase in student enrollment at Lincoln Elementary School. Accordingly, the Project would result in a nominal increase in student enrolment.

The General Plan EIR notes that policies within the General Plan would assure the provision of appropriate school facilities as necessary to serve the City's growing population. The Project Applicant would be required to contribute school fees in accordance with Public Education Code Section 17072.10-18. The provision of school fees would assist the NMUSD in meeting the Project's incremental demand for school services. Although it is possible that the NMUSD may ultimately need to construct new school facilities in the region to serve the growing population within their service boundaries, such facility planning is conducted by the NMUSD and is not the responsibility of the Project. Furthermore, the Project would be required to contribute fees to the CNUSD in accordance with the Leroy F. Greene School Facilities Act of 1998 (Senate Bill 50). Pursuant to Senate Bill 50, payment of school impact fees constitutes complete mitigation for Project-related impacts to school services, where projects are subject to compliance with CEQA. Therefore, mandatory payment of school impact fees would reduce the Project's impacts to school facilities to a level below significant, and no mitigation would be required.

Accordingly, and based on the foregoing analysis, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools. Therefore, impacts would be less than significant.

[1] The General Plan EIR assumes that the 14,215 dwelling unit increase associated with the General Plan Update would result in 6,230 new students, consisting of 3,115 elementary school students, 1,557 middle school students, and 1,558 high school students. This was calculated using Department of Finance population projections, and assuming that approximately 20 % of the potential increase in population would represent children attending grades K through 12. The number of elementary, middle, and high school students, respectively, was divided by the dwelling unit increase of 14,215 to obtain the following student generation ratios for each grade level: 0.219135 elementary students 0.109532 middle school students, and 0.109603 high school students per household. These student generation ratios were used to estimate the number of students that the proposed Project would generate.

d) Would the Project result in substantial adverse physical impacts associated with the provision of any other new or physically altered government facilities, need for any other new or physically altered government 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 other types of public services?

Finding: Less-than-Significant Impact. The Project would result in less-than-significant impacts associated with the provision of any other new or physically altered government facilities, need for any other new or physically altered government 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 other types of public services.

Impacts to Public Libraries

Under existing conditions, the Project site's existing car wash and ancillary gas station does not generate a demand for library facilities.

Upon implementation of the Project, the car wash and ancillary gas station would be demolished and replaced with a condominium building accommodating approximately 110 persons. As such, the demand for library services within the City would be incrementally increased as a result of the Project's resident population increase. The General Plan Arts and Cultural Element does not establish any quantitative standards for determining the amount of physical library space needed to serve the City's population. Additionally, given changes in technology (i.e., the use of electronic media in lieu of hard copy media), the demand for physical library space based on population-based projections is speculative. The Newport Beach Central Library underwent an approximately 17,000-square-foot expansion in 2013 to service the City's population and the addition of approximately 110 persons to the City's population associated with the Project has no potential to directly or indirectly create the need to construct a new future library or physically expand an existing library facility. Library services receive funding from property tax, a portion of which from the Project's tax assessment would be dedicated to the City's Library Fund (Newport Beach, 2015a, Section 3.08.020).

Based on the above analysis, the Project would result in less-than-significant impacts associated with the provision of any other new or physically altered government facilities, need for any other new or physically altered government 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 other types of public services.

Impacts to Recreational Facilities

Impacts to recreational facilities are addressed under Section 4.5.15, Recreation, which concludes that the Project would result in a less-than-significant impact to the City's park facilities.

4.5.15 Recreation

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

Finding: Less-than-Significant Impact. Adequate parkland facilities would be accommodated within Service Area 9 (Newport Center) to meet the needs of existing and projected residents, including residents generated by the Project. Accordingly, the Project would

not 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.

The General Plan Recreation Element and Figure R11 indicates the following for Service Area 9 (which includes the Project site):

> *Service Area 9—Newport Center. There is park surplus within this service area. The Back Bay View Park was completed in the summer of 2005, and a new passive park,* Civic *Center Park, is planned for development sometime after 2006.*

The Project site has maintained its use as a car wash since the 1970s and is not identified by the General Plan for improvement with any recreational resources. Recreational needs within Service Area 9 occur in other off-site locations. In accordance with the Recreation Element Policy R 1.1, the Project Applicant would be required to contribute in-lieu fees pursuant to the City's Park Dedication Fee Ordinance and City Resolution No. 2007-30 (Newport Beach, 2007b). There are no other goals or policies of the General Plan Recreation Element (e.g., the site and surroundings) that are applicable to the Project; accordingly, the Project would be consistent with, or otherwise would not conflict with, all applicable policies of the General Plan Recreation Element.

Under existing conditions, the car wash with ancillary gas station does not generate a demand for recreational facilities. With implementation of the Project, the proposed 49 condominium units are estimated to increase the City's population by approximately 110 persons. Future residents of the Project site are likely to utilize Civic Center Park, located adjacent to Newport Beach City Hall and Library, which is the closest park area to the Project site (located approximately 0.25 mile northwest of the Project site). This 14-acre park was constructed in 2013 and has the following amenities (Newport Beach, 2015b):

- Civic Green: This is a two acre space that connects the library, City Hall, parking structure and park. This area is designed to be a gathering place for community events.
- A viewing platform
- Picnic areas
- Wetlands and bird blind
- 1.23 miles of walking trails

Additionally, future residents could also utilize Irvine Terrace Park, located approximately 0.40 mile southwest of the Project site on the opposite side of Pacific Coast Highway. Irvine Terrace Park has a soccer field, a basketball court, two tennis courts, a tot lot, a sidewalk, and grassy areas. The use of Civic Center Park and/or Irvine Terrace Park by the Project's estimated 110 residents would not result in substantial deterioration to these existing facilities due to the small increase in population associated with the proposed Project. Additionally, the proposed Project includes common and private open space areas as part of the Project design in order to help meet the recreation needs of the future residents. The proposed Project would include 13,392 square feet of common open space including a dog run and 14,217 square feet of private open space, which would further help to meet the leisure and recreational needs of future Project residents (Project Application Materials, 2015, p. A0.1).

As detailed in the City's General Plan EIR, the City of Newport Beach contains 12 service areas for parkland. The Project is located in Service Area 9 (Newport Beach, 2006b, Figure 4.12-1), which is one of the two service areas identified within the City as having a park surplus (Newport Beach, 2006b, page 4.12-1). Based on the City's Parkland Standard of five acres of parkland per 1,000 residents, the

Project's estimated population increase of 110 persons would result in a demand for approximately 0.55 acre of parkland. Thus, with implementation of the Project, the total demand for recreational facilities within Service Area 9 (Newport Center) would increase compared to existing conditions. The Civic Center Park accounts for 14 additional acres of parkland within Service Area 9 that were constructed in 2013, after the General Plan was adopted in 2006. Accordingly, the Project would have a less-than-significant impact because it would not result in a substantial physical deterioration of existing recreational facilities in the City of Newport Beach.

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

Finding: Less-than-Significant Impact. The Project would not directly or indirectly result in the need for new or expanded recreational facilities off-site that could have an adverse physical effect on the environment.

As indicated under the discussion and analysis of Threshold a) of this section, Service Area 9 would be served by sufficient park facilities because there is an excess of parkland in the Project area. The Project would not directly or indirectly result in the need for new or expanded recreational facilities that could have an adverse physical effect on the environment. Accordingly, impacts would be less than significant.

4.5.16 Transportation/Traffic

a) Would the Project 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?

Finding: Potentially Significant Impact. The Project could conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system.

The Project would include the removal of the existing car wash and the construction of 49 condominium units, which has the potential to increase traffic in the Project area, which may result in a potentially significant impact. Traffic impacts will be thoroughly evaluated in the EIR.

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

Finding: Potentially Significant Impact. The Project could conflict with the OCTA CMP's level of service standards or travel demand measures.

The Orange County Transportation Authority (OCTA) Congestion Management Plan (CMP) is the applicable congestion management program for the City of Newport Beach. Pursuant to the CMP, an individual project would result in significant impacts to traffic if it causes the Level of Service (LOS) of any CMP Highway System intersections to degrade to below a LOS E, or if it generates sufficient traffic that contributes to a facility already operating below the threshold. The addition of the 49 units could increase vehicular traffic in the Project vicinity, which may result in a potentially significant impact. Traffic impacts will be thoroughly evaluated in the EIR.

c) Would the Project 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?

Finding: No Impact. There are no components of the Project that would result in an increase in traffic levels or result in substantial safety risks.

The only airport within the Project vicinity is the John Wayne Airport (JWA), which is located approximately 3.6 miles north/northeast of the Project site. Although a portion of the Project site falls within the JWA notification area, the building height does not penetrate the 100:1 imaginary surface for notification nor does it penetrate the FAR Part 77 JWA obstruction imaginary surfaces and thus, the Project does not fall within the Airport Planning Area requiring Airport Land Use Commission review (OCALUC, 2008, Figure 1 and Appendix D). Accordingly, and based on the AELUP, the Project would not occur in a location that results in a substantial safety risk for future Project residents, the limited scale of the proposed Development would not result in a substantial increase in demand for air traffic. Therefore, no impacts associated with air traffic would occur.

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

Finding: Less Than Significant. The Project would not substantially increase hazards due to a design feature or incompatible uses. There may be the need for temporary lane closures for Anacapa Drive and Newport Center Drive and the installation of tie-backs along the Newport Center Drive and Anacapa Drive frontages, however these temporary improvements would be less than significant.

With the exception of the potential installation of utility tie-backs along the Project site's frontage, the Project does not involve any improvements to off-site roadways or intersections and complete street closures would not occur during the Project's construction phase. There may be the need to temporarily close a lane in Newport Center Drive and/or Anacapa Drive during construction of tie-backs. However due to the temporary nature of the lane closures, and the required implementation of mandatory traffic control measures during lane closures, less-than-significant impacts would occur. Similarly, the location of driveway access points on-site would comply with City roadway standards and the proposed driveways would provide for adequate sight distance. Two new curb cuts would be added, along Anacapa Drive, at the entrance and exit for the porte cohere. Access points will be reviewed by the City of Newport Beach Transportation Engineer regarding adequate site distance so that the Project would conform to City codes. Accordingly, the Project would not increase hazards due to a design feature and less than significant impacts associated with this issue would occur.

e) Would the Project result in inadequate emergency access?

Finding: No Impact. The Project would result in adequate emergency access. No impact would occur and mitigation is not required.

The Project Applicant proposes adequate emergency access to the site via compliance with various conditions of approval from the City Fire Department, including the provision of an exclusive off street staging area for emergency vehicles. The size of the area needs to accommodate the height and width of a fire engine and medic unit and should be located closely to the main entrance into the development. The primary guest/valet entrance driveway would accommodate the City's Fire Department need for emergency access at the front of the building. Additionally, the Project would not require the complete closure of any public or private streets or roadways during construction, therefore any construction

within public roadways would not impede use of roads for emergencies or access for emergency response vehicles because emergency vehicles would be able to access the Project site during construction should a lane be closed. Therefore, the Project would not result in inadequate emergency access, and no impact would occur.

f) Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities?

Finding: No Impact. The Project would not conflict with adopted policies, plans, or programs regarding transit, bicycle, or pedestrian facilities.

The General Plan Circulation Element includes a number of goals and policies related to public transit, bicycle, and pedestrian facilities. These include the policies identified under General Plan Circulation Element Goal CE 4.1 (Public Transportation) and CE 5.1 (Alternative Transportation Modes). A brief discussion of Circulation Element Policies that are applicable to the Project is provided below.

Policy CE 4.1.4: *Land Use Densities Supporting Public Transit. Accommodate residential densities sufficient to support transit patronage, especially in mixed use areas such as the Airport Area.*

Project Consistency: The Project Applicant proposes to develop the site with 49 condominiums in one building on the 1.26-acre site, resulting in a density of approximately 39.2 dwelling units per acre. This level of density would support transit patronage within the Project area. Additionally, an OCTA bus stop is located adjacent to the Project site on Newport Center Drive and is served by OCTA Bus routes 1, 57, and 79. Additionally, approximately 0.6 mile from the Project site is the Newport Transportation Center, from which OCTA bus routes 1, 55, 57, 76, and 79 arrive. Accordingly, the Project would be consistent with Circulation Element Policy CE 4.1.4.

Policy CE 5.1.1: *Trail System. Promote construction of a comprehensive trail system as shown on Figure CE4.*

Project Consistency: According to Figure CE4 of the Circulation Element, the portion of Newport Center Drive that fronts the Project site is identified as a Class II On-road striped bicycle lane in the City's Bikeways Master Plan. The Project would not impact the existing Class II bike trail. Accordingly, the Project would not conflict with Policy CE 5.1.1.

Policy CE 5.1.2: *Pedestrian Connectivity. Link residential areas, schools, parks, and commercial centers so that residents can travel within the community without driving.*

Project Consistency: As occurs under existing conditions, the Project is served by existing sidewalks along Anacapa Drive and Newport Center Drive, which provide connections to sidewalks in the Project Vicinity. Accordingly, the Project would be consistent with Circulation Element Policy CE 5.1.2.

Policy CE 5.1.3: *Pedestrian Improvements in New Development Projects. Require new development projects to include safe and attractive sidewalks, walkways, and bike lanes in accordance with the Master Plan, and, if feasible, trails.*

Project Consistency: The Project Applicant proposes a small pedestrian plaza/gathering space at the northeast corner of the Project site which would provide pedestrian access form the Project site to Anacapa Drive and Newport Center Drive. An existing 3-foot pedestrian access easement at the easterly edge of the subject property would continue to provide adequate pedestrian connectivity across the subject property. Accordingly, the Project would be consistent with Circulation Element Policy 5.1.3.

Policy CE 7.1.1: *Required Parking. Require that new development provide adequate, convenient parking for residents, guests, business patrons, and visitors.*

Project Consistency: Based on the City of Newport Beach off-street parking requirements for the Project land use, the Project is required to provide 98 covered parking spaces for residents and 25 parking spaces for guests. Within the proposed subterranean parking structure, the Project is proposing to provide 100 covered parking spaces for residents and 26 parking spaces for guests, satisfying the City's minimum parking requirement. Two of the 26 guest parking spaces would be located at the entry level south of the porte cochaire. Accordingly, the Project would be consistent with Circulation Element Policy 7.1.1.

The remaining Circulation Element policies related to public transit, bicycle, and pedestrian facilities provide general direction to City staff and/or decision-makers, or are otherwise not applicable to the Project. There are no other adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Accordingly, the Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, and no impact would occur.

4.5.17 Utilities and Service Systems

a) Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Finding: Less-than-Significant Impact. The Project would demand less wastewater treatment capacity than is demanded by the site under existing conditions resulting in a less than significant impact.

The proposed Project would be served by an 8-inch sewer line that connects to an existing 15-inch sewer main beneath the Newport Center Drive right-of-way and a 6-inch lateral that connects to an 8-inch sewer main beneath the Anacapa Drive right-of-way. One 6-inch sanitary sewer lateral connection is planned within Anacapa Drive. The two existing 8-inch and 6-inch lines would remain to serve the Project. The composition of wastewater generated by the Project is assumed to be typical of other residential uses in the City, consisting of domestically generated wastewater with little to no hazardous materials or components present. As occurs under existing conditions, wastewater would be collected by the City's sewer system and conveyed to Orange County Sanitation District (OCSD) Treatment Plant No. 1 in Fountain Valley. Wastewater treatment demand generated by the Project would be expected to decrease compared to what is demanded by the car wash under existing conditions. As

shown on Table 4-2, *Existing and Proposed Wastewater Treatment Demand*, the Project would generate approximately 9,470 gallons per day (gpd) of wastewater, while the site's existing land use is estimated to generate approximately 11,156 gpd. As such, the Project would decrease demand on OCSD Treatment Plant No. 1 and would therefore not directly or indirectly cause OCSD to exceed wastewater treatment requirements.

Table 4-2 Existing and Proposed Wastewater Treatment Demand

Land Use	Intensity	OCSD Wastewater Flow Factor	Total Wastewater Generation
Existing Land Use			
Car Wash	1.26 acre site	2,262 gpd/acre [1]	11,156 gpd [2]
Total Wastewater (Existing Land Use):			11,156 gpd
Proposed Land Use			
Condominiums	1.26 acre site	7,516 gpd/acre [3]	9,470 gpd [4]
Net Decrease in Sewer Generation with Project Implementation:			4,536 gpd

Source: T&B Planning, 2015; (C&V, 2015a)
Notes: gpd= gallons per day. d.u./acre= dwelling units per acre.
Numbers were rounded to provide a "worst case" analysis of wastewater treatment demand.

1. Using the Orange County Sanitation District flow factors for office/commercial land uses (2,262 GPD/acre) it was estimated that the existing flow from the site is 2,850 GPD, however this calculated flow is much lower than the actual conditions because the existing car wash has a higher flow factor than the average office or commercial building.

2. Existing wastewater generation for the car was estimated based on the car wash's water utility bills average over a six month period, with an assumption that 90% of water used would be discharged into the sewer.

3. This is based on a wastewater flow estimate of 7,516 gallons per day/acre for high density residential (26-35 d.u./acre) land uses. The Project falls under the high density residential category for the purposes of estimating wastewater demand. The additional density proposed by the Project (39.2 du/acre) was not enough to increase the flow rate when rounded to a hundredth of a cfs. Therefore the difference was considered negligible.

4. In the *Assessment for Sewer Capacity Availability* for the Project it is assumed that the approximately 9,470 gpd would be split evenly between the sanitary sewer systems on both Anacapa Drive and Newport Center Drive, resulting in approximately 4,735 gpd to each main (C&V, 2015a, p. 2).

b) Would the Project 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?

Finding: Less-than-Significant Impact. The Project would not result in the construction or expansion of new water or wastewater treatment facilities. A less than significant impact would occur and mitigation is not required.

The *Assessment of Sewer Capacity Availability* report for the Project (*Technical Appendix D*) identifies that the Project is calculated to result in decreased demand on the local sanitary sewer system, when compared to existing conditions. (C&V, 2015a, p. 1) As such, the report identifies that the Project demand would not result in an adverse impact on any downstream facilities because the change in land

use at the Project site would reduce total sewer flows originating from the Project site. (C&V, 2015a, p. 2) C&V Engineering determined that the existing flow from the Project site is 11,156 gpd; it was assumed that the existing flow from the site is split evenly between the sanitary sewer facilities within both Anacapa Drive and Newport Center Drive resulting in a flow of 5,578 gpd to each main. To estimate the Project's wastewater generation, Orange County Sanitation District flow factors for high density residential (7,516 gpd/acre) were used. The proposed flow from the site is calculated to be approximately 9,470 gpd, resulting in 4,735 gpd of wastewater flow to each sewer main that would service the Project site. Given the decrease in wastewater flows that would result from implementation of the proposed Project, impacts associated with sewer capacity would be less than significant.

As described below, the Project would have a less-than-significant impact to wastewater treatment facilities. In 2014, Orange County Sanitation District Reclamation Plant No. 1, located in the City of Fountain Valley, treated an average of 96 million gallons per day (mgd) and Treatment Plant No. 2, located in the City of Huntington Beach, treated an average of 98 mgd during 2014. (OCSD, 2015, p. 1). Thus in 2014, the two treatment facilities treated an average total of 194 mgd. Reclamation Plant No. 1 and Treatment Plant No. 2 are constructed to together treat 372 mgd of primary treated wastewater and 332 million gallons per day of secondary treated wastewater (OCSD, 2012, pp. F-4). Accordingly, the two plants have a remaining excess capacity of 178 mgd for primary treated wastewater. The proposed Project would result in a decrease in the amount of wastewater generated at the Project site, which would result in a corresponding increase in the wastewater treatment capacity of these two plants. Accordingly, the Project would have a less-than-significant impact related to wastewater treatment capacity.

The City of Newport Beach would be the domestic water provider to the Project site. As detailed in the *Assessment of Water Availability* report (*Technical Appendix I*), the Project would utilize the existing 12-inch water main in Newport Center Drive for domestic water service. The proposed Project would utilize the existing 6-inch connection to the 12-inch water main within Newport Center Drive and proposes a new 2-inch irrigation service line and 8-inch fire service line connection to the existing 12-inch main located within Newport Center Drive (C&V, 2015b, p. 2).

Existing water demand from the on-site car wash and ancillary gas station was calculated from water bills from the car wash business over a six month period. Utilizing this assumption, C&V Engineering calculated that the existing car wash business generates 12,395 gpd of domestic water demand. (C&V, 2015b, p. 1) The proposed Project was calculated as generating a demand for 10,417 gpd of domestic water based on an assumption that 110% of the calculated effluent from the OCSD flow factors would make up the total water demand for the Project site. (C&V, 2015b, p. 2) Refer to Table 4-3, *Existing and Proposed Potable Water Demand* for a comparison of existing and proposed water demand.

Table 4-3 Existing and Proposed Potable Water Demand

Land Use	Intensity	Potable Water Demand Estimates	Total Potable Water Demand
Existing Land Use			
Car Wash	8,500 s.f. on a 1.26 acre site	12,395 gpd[1]	12,395 gpd
Total Water (Existing Land Use):			12,395 gpd
Proposed Land Use			
Condominiums	49 d.u. on a 1.26 acre site	9,470 gpd/acre x 110 % [1]	10,417 gpd
Net Decrease in Potable Water Demand with Project Implementation:			1,978 gpd

Notes:
gpd= gallons per day d.u.= dwelling units s.f.= square feet
[1] Source: (C&V, 2015b, p. 2)

As shown in Table 4-3, the Project is estimated to result in a decreased demand for domestic water when compared to the existing car wash that occurs on the Project site. All existing fire hydrants would remain in the Project vicinity and would not be relocated. As detailed in the water availability and sewer capacity availability studies (Appendices H and I), adequate supplies exist to service the proposed Project and the Project would not require or result in the construction or expansion of water treatment facilities. Impacts associated with this threshold would be less than significant.

c) Would the Project 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?

Finding: Less-than-Significant Impact. The Project would install new storm water drainage infrastructure on the site that would connect to the existing municipal storm drain system. No storm water-related off-site facilities or expansion of existing off-site facilities would occur.

As part of the Project, storm water infrastructure would be constructed on-site, and would connect to the existing municipal storm drain system. As discussed previously in Section 4.5.9, Hydrology and Water Quality, an area drain would be installed along the north, east, and south perimeter of the site and tie into the existing 10-inch storm drain. Storm water flows would ultimately discharge to Lower Newport Bay. The Project would create a slight increase in the amount of impervious surfaces on the site (an increase from 80% to 85%), which would have a corresponding increase in the amount of stormwater runoff that would enter the municipal storm drain system. However, because this increase would be nominal in comparison to the existing stormwater flows, the Project would not substantially increase the volume or velocity of water discharged from the site. As such, the Project would not require or result in the construction or expansion of any off-site storm water drainage infrastructure.

d) Would the Project have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?

Finding: Less-than-Significant Impact. The Project would demand less water than is demanded by the site under existing conditions and sufficient water supplies would be available from existing entitlements and resources.

As discussed above under Threshold b) of this section and as shown in Table 4-3, the Project would demand less water than is demanded by the site under existing conditions. The site's existing uses are considered in the City's Urban Water Management Plan (hereby incorporated by reference), which concludes that the City has entitlements to sufficient water supplies to serve its existing and projected demand. More specifically, The City of Newport Beach is capable of meeting the water demands of its customers in normal, single dry, and multiple dry years between 2015 and 2035 (Malcolm Pirnie, Inc, 2011a, p. 2). As the Project would result in a reduced water demand compared to the existing car wash, the Project would not have a significant adverse impact on water supply sufficiency

On April 1, 2015, Governor Jerry Brown signed Executive Order B-29-15, which directs the State Water Resources Control Board to implement mandatory water reductions in cities and towns across California through February 18, 2016 to reduce water usage by 25%. The SWRCB regulations identified Newport Beach as an urban water agency that would be required to reduce overall water usage by 28%. As mentioned above, the provisions of the Executive Order extend through February 18, 2016, and the Project is not expected to complete construction until 2018. Therefore, it cannot be determined if the water restrictions would be in place when the Project becomes operational. Furthermore, the SWRCB was sued over the legality of the mandated cutbacks. Regardless, the Project would be required to comply with water use reduction mandates that are in effect at the time of the Project's construction and operation. Currently, in response to the State's requirements, the Newport Beach City Council has implemented a Level Three Mandatory Water-Conservation Requirement. Because the Project would reduce the amount of potable water demand generated at the Project site, the proposed Project would not impede Newport Beach's ability to achieve their water reduction target. If recycled water infrastructure is added within the Newport Center Drive right-of-way in the future, the project will be required to connect the landscape irrigation system to this recycled water infrastructure.

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e) Would the Project 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?

Finding: Less-than-Significant Impact. The Project would generate less wastewater compared to the existing conditions, resulting in a reduction in demand for wastewater treatment capacity.

As discussed above under Threshold b) of this section, the Project would have a less than significant impact on the wastewater treatment capacity. Based on the most recent information, Reclamation Plant No. 1, located in the city of Fountain Valley and Treatment Plant No. 2, located in the City of Huntington Beach have a combined remaining excess capacity of 178 mgd for primary treated wastewater. Thus, the Project would not adversely affect the physical capacity of the existing wastewater infrastructure system that services the site. OCSD Treatment Plants 1 and 2 have adequate capacity considering existing and projected commitments and the reduction in wastewater volume that would be generated from the site.

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f) Would the Project be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?

Finding: Less-than-Significant Impact. The Project would be served by the Frank R. Bowerman Landfill, which has sufficient permitted capacity to accommodate the Project's solid waste disposal needs.

In order to construct the Project, the existing car wash and gas station building and associated site improvements located on the property would be demolished and cleared from the site. In total, approximately 8,500 square feet of building area for the existing car wash with ancillary gas station, parking lot, landscape, and hardscape areas would be removed to prepare the site for redevelopment. Demolition debris generated as part of the Project are estimated to be 80 tons of debris, 240 cubic yards of concrete, 51,600 cubic yards of soil, and 620 cubic yards of asphalt. A majority of the debris from Project is anticipated to go to the Frank R. Bowerman Sanitary Landfill located on Bee Canyon access Road in Irvine. Some demolition materials would also go to Dan Copp Crushing, located at 1120 N. Richfield Road in Anaheim (approximately 21 roadway miles from the Project site). Debris would be disposed of during the course of Project construction and demolition. However, for the purposes of a worst-case analysis, it is assumed that all construction and demolition debris would be disposed of at the Frank R. Bowerman Sanitary Landfill, which serves the City of Newport Beach. Based on the estimated amount of construction and demolition debris that would be generated by the Project, the Frank R. Bowerman Sanitary Landfill's permitted capacity of 11,500 tons per day (Calrecycle, 2015) can accommodate the projected amount of debris estimated to be generated by the Project during the demolition and construction phases, resulting in a less-than-significant impact to landfill capacity.

Based on the solid waste generation rates presented in General Plan EIR Table 4.14-14 for multi-family residential uses, the 49 units proposed on the site would result in the long-term generation of approximately 314.09 pounds per day of solid waste (at a rate of 6.41 pounds per unit per day). This amount of solid waste would result in a nominal increase in the amount of solid waste conveyed to the Frank R. Bowerman Sanitary Landfill that would be met by the landfill's permitted capacity. Therefore, with implementation of the Project, there would be a less than significant impact on the landfill's permitted capacity of 11,500 tons per day.

g) Would the Project comply with federal, state, and local statutes and regulation related to solid waste?

Finding: Less-than-Significant Impact. The Project would comply with all applicable statutes and regulations related to solid waste.

Public Resources Code Section 40000 et seq. requires that local jurisdictions divert at least 50% of all solid waste generated. The Project would be subject to the City's Recycling Service Fee pursuant to Municipal Code Chapter 2.30, which is intended to assist the City in meeting the 50% diversion objective. Commercial waste haulers within the City are subject to Municipal Code Section 12.63.120 (Recycling Requirement), which states, "No person providing commercial solid waste handling services or conducting a solid waste enterprise shall deposit fifty (50) percent or more of the solid waste collected by the person in the City at any landfill." Furthermore, the Project would be required to comply with Municipal Code Section 20.30.120 (Solid Waste and Recyclable Materials Storage), which mandates that all multi-unit projects with five or more dwelling units "…provide enclosed refuse and recyclable material storage areas with solid roofs." Accordingly, the Project would be fully compliant with all applicable Federal, State, and local statutes and regulations related to solid waste, resulting in a less-than-significant impact.

4.5.18 Mandatory Findings of Significance

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 period of California history or prehistory?

Finding: Potentially Significant Impact. The Project has the potential to impact nesting birds. Additionally, there is a remote possibility that archaeological resources, paleontological resources and human remains could be encountered during site grading activities

As indicated under the discussion of Biological Resources in Section 4.5.4, the Project could have potential impacts to nesting birds. Accordingly, there is a potentially significant impact to biological resources resulting from Project implementation. Additionally as indicated in the discussion and analysis of Cultural Resources in Section 4.5.5, there is a remote possibility that archaeological resources, paleontological resources and human remains could be encountered during site grading activities. Thus, the Project could have potentially significant impacts regarding biological and cultural resources. These issues will be further addressed in an EIR.

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.)

Finding: Potentially Significant Impact. The Project could result in impacts that are individually limited, but cumulatively considerable. Cumulative impacts of the Project will be analyzed in an EIR.

Potential cumulative impacts of the Project will be analyzed in an EIR.

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

Finding: Potentially Significant Impact. Due to the Project's potential to result in significant impacts, the Project could potentially have environmental effects which would cause substantial adverse effects on human being, either directly or indirectly.

This issue will be further addressed in the Project's EIR.

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NEWPORT CENTER VILLAS

Planned Community Development Plan

Date: August 11, 2015

Ordinance No. 2014_____
Adopted _____, 2015

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LIST OF EXHIBITS

1.0 INTRODUCTION AND PURPOSE

The Newport Center Villas Planned Community Development Plan (PC) is composed of 49 condominium units totaling 163,260 square feet of gross floor area. The project is located at the southwest intersection of Newport Center Drive and Anacapa Drive in Newport Center. The vision presented in the conceptual plan is for a luxury residential enclave intended to integrate a sophisticated urban lifestyle with a timeless building design.

The unit mix includes 10 residential townhomes, 35 residential flats on Levels 3 through 6 and four penthouses on Level 7. Level 7 will also have a club room with fully appointed kitchen, fitness room/spa and a swimming pool. The project is designed for three levels of parking below grade. Level B-1 is partially at grade on the southern edge to allow tenant access, moving van access, and general delivery. Every unit will have a private 2-car garage located within the basement levels.

The PC identifies land use relationships and associated development standards for the particular district. To that end, it coordinates and complements the broader scale and massing of the Newport Center area. The PC ensures a broader coordination and consistency with the surrounding neighborhood, to include a higher level of architectural quality supporting the Newport Center environment along with pedestrian connectivity.

The proposed PC includes a specific set of standards and procedures for implementation and continuation of dwelling units within Newport Center while ensuring substantial compliance with the spirit and intent of the Zoning Code. The PC ensures the following objectives are met:

1. Ensure consistency with General Plan policies related to the preservation of established community character, and expectations for high quality development;
2. Respect the physical and environmental characteristics of the site;
3. Ensure safe and convenient access and circulation for pedestrians and vehicles;
4. Allow for and encourage individual identity for specific uses and structures;
5. Encourage the maintenance of a distinct neighborhood and/or community identity;
6. Minimize or eliminate negative or undesirable visual impacts;
7. Allow for different levels of review depending on the significance of the development project (Newport Beach, 2015a).

2.0 LAND USE AND DEVLOPMENT REGULATIONS

Whenever the regulations contained in the PC conflict with the regulations of the Newport Beach Municipal Code, the regulations contained in the PC shall take precedence. The Newport Beach Municipal Code shall regulate all development within the PC when such regulations are not provided within the PC Regulations.

The following development standards shall apply to the residential condominium units.

2.1 ARCHITECTURAL DESIGN

Newport Center Villas design was inspired by one of the most architecturally renowned buildings in New York City: Ralph Lauren's 5th Avenue flagship store. Newport Center Villas is conceived as two classic and stately enclaves that are linked together via a modern glass and metal bridge which contain an atrium entry and lobby. The enclaves are perceived as the solid and the bridge as the void. Architecturally, the enclaves are proportioned classically with a defined base, middle, and top that is reinforced by cornices and belt bands. The elevation is presented through the use of reduced massing offsets and subtle variations in the terraced roof line.

The building's material palate consists of warm neutrals and the building façade is compatible with the surrounding development in Newport Center. The design will complement, enhance, and be compatible with the adjacent retail and office properties. In keeping with this philosophy, the exterior will be comprised predominately of a pre-cast concrete façade, stainless steel finishes and glass. Massing offsets, variations of roof line, varied textures, recesses, articulation and design accents on the elevation are integrated to enhance the expression of a unique and sophisticated architectural style.

Two-story townhome residences encompass the ground level and second story of the building with large front porches and resident entries wherein a direct physical connection is established with the public realm. Fenestration of the enclaves is developed around the "California Coastal" view of indoor – outdoor living. Openings above level 2 have the ability to slide open into recessed pocket allowing for the full aperture of fenestration to engage with interior living. Connections to the public realm are further reinforced via a pedestrian boardwalk, and a social gathering space at the corner of Anacapa Drive. A dog run is provided for the residents on the ground level at the northwest corner of the project.

The exterior landscaping will further enhance the feel of a luxury lifestyle at the immediate intersection of Anacapa and Newport Center Drive. The crosswalks at the corner of Newport Center Drive and Anacapa Drive shall enhance the visual connection to the adjoining office, entertainment and medical districts. Along Anacapa Drive, the project will provide resident serving Porte-cochere into a luxurious lobby. The Porte-cochere is intentionally located on Anacapa Drive so as not to impact Newport Center Drive and provide access to the project.

2.2 PERMITED USES

a. Condominiums (Multi-Family Residential).

b. On-site recreational facilities, valet stations, conference rooms, wine storage, separate dedicated storage areas, and other structures ancillary to residential uses.

c. Telecommunications facilities are permitted in accordance with Chapter 20.49 (Wireless Telecommunications Facilities) of the NBMC.

d. Land uses that are not listed above are not allowed, except as provided by Chapter 20.12(Interpretation of Zoning Code Provisions) of the NBMC or as required by State Law.

e. Temporary uses may be allowed only upon approval of a limited term permit pursuant to Section 20.52.040 (Limited Term Permits) of the NBMC.

2.3 BUILDING SETBACKS

a. Above grade (as shown on the preliminary grading plan)

Anacapa Drive	22.5 feet (including a 3-foot pedestrian walkway easement) 3 feet at entry/valet canopy
Newport Center Drive	24 feet
Western property line	14 feet
Southern property line	22 feet (Including a 9-foot pedestrian walkway easement)

b. Below grade (as shown on the preliminary grading plan)

Anacapa Drive	15 feet
Newport Center Drive	15 feet
Western Property Line	0 feet for podium at Level 1 3 feet for basement walls
Southern Property line	7 feet

Decorative architectural features such as roof overhangs, brackets, cornices, and eaves may encroach up to 30 inches into a required setback area, provided that no architectural features shall project closer than twenty-four inches from a side property line and a minimum vertical clearance of at least eight feet above finished grade is maintained.

2.4 DENSITY: NUMBER OF UNITS

The maximum allowable number of condominium residential unit shall be 49 (39.2 units/acre).

2.5 FLOOR AREA

a. Building Area

The maximum gross floor area limit for the development is 164,193 gross square feet at a floor area ratio (FAR) of 3:1. This results in a floor area limit that is 3.45 times the buildable area (lot area less the required building setbacks).

Gross Floor Area Definition:

The following areas shall be included in calculations of gross floor area:

1. The surrounding exterior walls
2. Any interior finished portion of a structure that is accessible and that measures more than four feet from finished floor to ceiling.
3. The following areas shall be excluded:
    a. Stairwells and elevator shafts above the first level.
    b. The seventh floor pool area.
    c. Parking structures associated including private garages.

b. Gross Floor Area per Unit. Residential uses are measured on a per unit basis.

i. Townhomes (floors 1-2):

3,581 square feet minimum
5,371square feet maximum

ii. Units on floors 3 through 6:

1,645 minimum
3,608 maximum

iii. Penthouses (floor 7):

2,285 minimum
3,583 maximum

2.6 GRADE FOR PURPOSES OF DETERMINING HEIGHT

Grade for the purposes of determining height = 164 feet NAVD88 datum

The site drops from an elevation of 170 feet above mean sea level at the immediate corner of Newport Center Drive and Anacapa Drive to 159.5 feet above mean sea level at the southwest

corner of the site. The average grade plane is 164’0”. The heights are measured from the average of the existing grade as shown on the survey/topographical map submitted as part of the submission to the city.

2.7 HEIGHT

The building height shall not exceed 75 feet 6 inches from the average grade (164 feet NAVD88 datum) of the site. The resulting overall building height is 75 feet 6 inches as measured from the average grade plane to top of the roof deck. The height of the open area between the enclaves is 63 feet 6 inches above the average height of the site or 227 feet 6 inches above mean sea level.

Rooftop appurtenances are permitted and may exceed the maximum building height by 8 feet up to 247.5 feet NAVD 88 datum. Rooftop appurtenances include, but are not limited to, mechanical equipment, stairwell and elevator shaft housing, antennae, window washing equipment, and wireless communication facilities. Rooftop appurtenances shall not exceed 30 percent of the overall roof area and shall be focused toward the interior of the building footprint adjacent to the elevator override. Rooftop appurtenances must be screened from view; the height of rooftop appurtenances shall not exceed the height of the screening. Supports for window washing equipment are permitted, and are not required to be screened from view. Rooftop appurtenances within the 8-foot limitation are subject to the review and approval of the Planning Division.

Architectural features may exceed the maximum building height up to 2 feet. Architectural features include the building rooftop parapet and other decorative rooftop features defined as visually prominent or formally significant elements of a building that express its architectural language and style in a complementary fashion. Architectural features should be logical extensions of the massing, details, materials, and color of the building which complement and celebrate its overall aesthetic character. Such features must be an extension of the architectural style of the building in terms of materials, design and color.

2.8 LANDSCAPING AND IRRIGATION

A minimum of 15 percent of the lot area shall be landscaped (8,203 square feet). Landscaping and irrigation shall be provided in all areas not devoted to structure, driveways, walkways, and private patios to enhance the appearance of the development, reduce heat and glare, control soil erosion, conserve water, screen adjacent land uses, and preserve the integrity of the PC.

Site landscaping and irrigation will be designed and planted in accordance with Chapter 20.36 (Landscaping Standards) of the Newport Beach Municipal Code (NBMC) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. Plants shall be adapted to the coastal climate of Newport Beach and appropriate to the specific soil, topographic, and sun/shade conditions of the project site. Drought-tolerant plants shall be used to the maximum extent practicable. Plant species having comparable water requirements shall be grouped together for efficient use of irrigation water. All plant materials shall conform to or exceed the plant quality standards of the latest edition of American Standard for Nursery Stock published by the American Association of Nurserymen, or the equivalent. Plant selection shall be harmonious to

the character of the project and surrounding projects and shall not be listed as an invasive species by the California Invasive Plant Council.

a. Minimum Landscape Requirements:

1. Landscaping shall incorporate a street tree species along Newport Center Drive and Anacapa Drive (Pink Trumpet, "Tabebuia Impetiginosa" or other tree to the satisfaction of the General Services Division). The same species street tree shall be planted on both sides of Anacapa Drive, north of the drive entry (upon the adjacent property owner's approval).
2. The Anacapa Drive parkway shall be maintained and landscaped to complement the existing on-site landscaping. Landscaping and irrigation shall consist of a combination of trees, shrubs, and groundwater and hardscape improvements.
3. The landscaped island at the southern entry within the ingress/egress easement shall be one continuous landscape area as shown on the attached Exhibit A (upon the underlying property owner's approval).
4. Landscaping shall be located so as not to impede vehicular sight distance to the satisfaction of the City Traffic engineer.
5. Planting areas adjacent to vehicular entrances shall be protected by a continuous concrete curb or similar perimeter barrier.
6. The ground floor landscape area shall include a 1,038 square feet dog run for use by the occupants of the project.
7. Landscape areas shall provide a minimum width dimension of 3 feet to provide adequate planting area.
8. Evergreen planting a minimum of 5 feet high shall be used to screen the podium wall along the eastern property line.
9. All landscape materials and irrigation systems shall be maintained in accordance with the approved landscape and irrigation plans. All landscaped areas shall be maintained in a healthy and growing condition in accordance with the NBMC and shall receive regular pruning, fertilizing, mowing and trimming. All landscaped areas shall be kept free of weeds and debris. All irrigation systems shall be kept operable, including adjustments, replacements, repairs, and cleaning as part of regular maintenance.
10. Landscape planting and irrigation plans and specifications shall be submitted by the applicant for review and approval by the Building Division or Planning Division prior to the issuance of a building permit.

b. Irrigation Guidelines

An irrigation system shall be installed and shall incorporate appropriate locations, numbers, and types of sprinkler heads and emitters to provide appropriate amounts of water to all plant materials. Application rates and spray patterns shall be consistent with the varying watering requirement of different plant groupings.

Irrigation systems and controls shall include technology that minimizes over watering by either: (a) directly measuring soil moisture levels, plant types, and soil types and adjusting irrigation accordingly, or, (b) receiving weather information at least on a daily basis via satellite or similar transmission and adjusting irrigation accordingly. The irrigation system shall be designed so as

to prevent over-watering and minimize overspray and runoff onto streets, sidewalks, driveways, buildings, fences, and window consistent with water conservation and pollution run-off control objectives.

2.9 LIGHTING

All new outdoor lighting shall be designed, shielded, aimed, located and maintained to shield adjacent uses/properties and to not produce glare onto adjacent uses/properties. Lighting plans shall be prepared in compliance with Chapter 20.30.040 (Outdoor Lighting) of the NBMC. All lighting and lighting fixtures that are provided shall be maintained in accordance with the approved lighting plans.

Light fixtures on buildings shall be full cut-off fixtures. Light spillover may not exceed one foot-candle at the subject property line. Lighting of building interior common areas, exteriors and parking entrances shall be developed in accordance with City Standards and shall be designed and maintained in a manner which minimizes impacts on adjacent land uses. Nighttime lighting shall be limited to that necessary for security.

The plans for lighting shall be prepared and signed by a licensed electrical engineer and shall be subject to review and approval of the Community Development Director or their designee. If in the opinion of the Director existing illumination creates an unacceptable negative impact on surrounding land uses or sensitive habitat areas, the Director may order the dimming of light sources or other remediation upon finding that the site is excessively illuminated.

2.10 MECHANICAL EQUIPMENT

Roof-top mechanical equipment shall not exceed 8 feet above the maximum height of the building and shall comply with Section 20.30.020 (Buffering and screening) of the NBMC. All mechanical appurtenances on building roof tops and utility vaults shall be screened in a manner meeting the approval of the Director of Community Development or their designee.

All new mechanical appurtenances (e.g., air conditioning, heating, ventilation ducts, exhaust vents, telecom antennas & support equipment, swimming pool and spa pumps, filters, transformers, utility vaults, and emergency power generators) shall be screened from the public view and adjacent land uses. The enclosure design shall be approved by the Community Development Department. All rooftop equipment shall be architecturally treated or screened from off- site views in a manner compatible with the building materials prior to final building permit clearance. The mechanical equipment shall be subject to sound rating in accordance with the Chapter 20.30.20 (Buffering and Screening) of the NBMC.

2.11 OPEN SPACE

a. Common Outdoor Space

A minimum of 75 square feet per dwelling unit (3,675 square feet for 49 dwelling units) of common open space shall be provided. Common outdoor space shall be provided either at grade,

podium level, or roof level. Common outdoor space areas shall have a minimum dimension of 10 feet. A minimum of 10 percent of the common outdoor space must be landscaped. All common outdoor space must be accessible to all residents.

Common outdoor space consists of land area within the residential development that is not individually owned or dedicated for public use that is designed, intended, and reserved exclusively for the shared enjoyment or use by all residents and their guests. Common outdoor space may be active or passive. Illustrative examples include areas of scenic or natural beauty, barbecue areas, landscaped areas, play areas, swimming pools, tennis courts, or turf areas.

b. Common Indoor Space

The building shall provide at least one community room of at least 500 square feet available for use by all residents of the project. The area should be located adjacent to, and accessible from, common outdoor space. This area may contain active or passive recreational facilities or meeting space, and must be accessible through a common/public area.

c. Private Open Space

Private open space shall be a minimum of 30 square feet per dwelling unit (6-foot by 5-foot minimum). At least 50 percent of all dwelling units shall provide private open space, on a balcony, patio, or roof terrace. Balconies should be proportionately distributed throughout the project in relationship to floor levels and sizes of units. Qualifying private open space areas shall be permanently open on one full side.

Private open space consists of an outdoor or unenclosed area directly adjoining and accessible to a dwelling unit, reserved for the exclusive private enjoyment and use of residents of the dwelling unit and their guests (e.g., balcony, deck, porch, terrace, etc.). Boundaries are evident through the use of fences, gates, hedges, walls, or other similar methods of controlling access and maintaining privacy.

2.12 PARKING

Parking to the project shall be underground and not visible from the public right-of-way and surrounding area. Parking spaces, driveways, maneuvering aisles, and turnaround areas shall be kept free of dust, graffiti, and litter. All components of the parking area including striping, paving, wheel stops, walls, and lighting of the parking area shall be permanently maintained in good working condition. Access, location, parking space and lot dimensions, and parking area improvement shall be in compliance with the Development Standards for Parking Areas Section of the Newport Beach Municipal Code. All required parking shall be provided on-site.

Two (2) enclosed private parking spaces shall be provided for each dwelling unit. One half (1/2) guest parking space shall be provided per unit for a total of 25 guest parking spaces. Each two-car garage shall provide minimum clear interior dimensions of 17 feet 6 inches in width by 19 feet in depth and shall be maintained so that it is accessible to vehicles.

Guest parking spaces shall maintain a minimum width of 8 feet 6 inches in width by 17 feet in depth.

All resident and guest parking spaces shall be maintained clear of obstructions and available for the parking of vehicles at all times. Vehicle parking and maneuvering areas shall be restricted to the operation, maneuvering and parking of operable vehicles and shall not be used for storage of any kind including the long term storage of vehicles not in regular use.

2.13 SIGNS

If three (3) or more signs are proposed for the development, a comprehensive sign program application for the Newport Center Villas shall be submitted for review and approval by the City of Newport Beach Community Development Director or their designee. Sign allowance and standards will be in accordance with Chapter 20.42 (Sign Standards) of the NBMC.

2.14 SITE WALLS

Walls and hedges shall be in accordance with the NBMC except as shown on the Site Development Review plans. Where a nonresidential zoning district abuts a residential zoning district, consideration of a landscape buffer shall be reviewed as part of the Site Development Review. Retention walls (including the podium height to finished surface above) shall not exceed 8 feet 6 inches in height measured from existing grade as shown on the title constraints survey. (Refer to Exhibit A-Site Plan and Project Statistics attached.)

2.15 TRASH SERVICE AND CONTAINER STORAGE

Trash disposal service will be provided by CR&R (or other provider) as contracted by the City of Newport Beach and shall be subject to applicable regulations, permits and fees as prescribed by the city.

Trash container storage and bins shall be located within the basement level parking structure in an area to be designed and engineered for odor control and for access for pick-up. Common trash bins provided shall be a minimum of 192 square feet for Trash and Recycling in accordance with Chapter 20.30.120 (Solid Waste and Recyclable Materials) of the NBMC. The bins will be brought by a scout truck from their regular storage areas in the basement to the southerly residential access drive for pick-up by regular trash trucks. Trash pick-up and staging shall not block vehicular access through the southerly access drive. Trash pick-up and loading is not permitted within the Anacapa Drive right-of-way.

2.16 CONSTRUCTION REQUIREMENTS

a. Archaeological/Paleontological

Grading of the site is subject to the provisions of the City Council policies K-4 & K-5 regarding archaeological and paleontological resources.

b. Building Codes

Construction shall comply with applicable provisions of the California Building Code and the various other mechanical, electrical and plumbing codes related thereto as adopted by the NBMC.

c. Grading

Grading and excavation of the development area shall be conducted and undertaken in a manner both consistent with grading manual standards and ordinances of the City of Newport Beach and in accordance with a grading and excavation plan approved by the City of Newport Beach Building Division.

d. Telephone, Gas and Electrical Service

All "on-site" gas lines, electrical lines and telephone lines shall be placed underground. Transformer or terminal equipment shall be visually screened from view from streets and adjacent properties.

e. Sewage Service

All sewer lines shall be designed in accordance with the Utilities Manger approval.

f. Storm Water Management

The project shall adhere to the Water Quality Management Plan (WQMP) approved in conjunction with the issuance of building permits. Drainage and water quality assurance measure will be implemented as per the City Public Works and Municipal Separate Storm Sewer System (MS4) requirements. Development of the property will be undertaken in accordance with the flood protection policies of the City.

g. Water service

Water service to the site will be provided by the City of Newport Beach and is subject to applicable regulations, permits and fees as prescribed by the City. The project shall provide the infrastructure for Fire Protection Water Service and Domestic water. Each dwelling unit shall be served by its own individual water meter. Each water meter shall be served and installed in accordance with the Public Works Department approval.

Should reclaimed water infrastructure be constructed along Newport Center Drive, the site's existing potable irrigation system shall be converted and connected to said infrastructure within one year of its availability.

3.0 SITE DEVELOPMENT REVIEW, SD2014-006 (PA2014-213)

3.1 PURPOSE

The purpose of the Site Development Review (SDR) process is to ensure new development proposal within the Newport Center Villas Planned Community Development are consistent with the goals and policies of the General Plan, and provisions of the Planned Community Development Plan.

3.2 APPLICATION

Prior to the issuance of building permits for the site development, a SDR application shall be required for the Newport Center Villas Planned Community Development in accordance with Section 20.52.080 (Site Development Reviews) of the NBMC.

3.3 DESIGN (ELEVATIONS) AND SITE DEVELOPMENT OF BUILDING

The SDR shall be part of this PC and shall be reviewed concurrently with the PC. The submitted site pans and elevations shall be part of this application.

Newport Center Villas

GREENHOUSE GAS ANALYSIS

CITY OF NEWPORT BEACH

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APPENDIX 3.1: CALEEMOD EMISSIONS MODEL OUTPUTS

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
APS	Alternative Planning Organizations
ARB	California Air Resources Board
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CAT	Climate Action Team
CBSC	California Building Standards Commission
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CH4	Methane
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2e	Carbon Dioxide Equivalent
CPUC	California Public Utilities Commission
EPA	Environmental Protection Agency
EPS	Emission Performance Standard
GCC	Global Climate Change
GHGA	Greenhouse Gas Analysis
GWP	Global Warming Potential
HFC	Hydrofluorocarbons
LCA	Life-Cycle Analysis
MMTCO2e	Million Metric Ton of Carbon Dioxide Equivalent
MPOs	Metropolitan Planning Organizations
MTCO2e	Metric Ton of Carbon Dioxide Equivalent
N20	Nitrogen Dioxide
NIOSH	National Institute for Occupational Safety and Health
NOx	Oxides of Nitrogen
PFC	Perfluorocarbons
PM10	Particulate Matter 10 microns in diameter or less
PM2.5	Particulate Matter 2.5 microns in diameter or less

PPM	Parts Per Million
Project	Newport Center Villas
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategies
UNFCCC	United Nations' Framework Convention on Climate Change
VOC	Volatile Organic Compounds

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EXECUTIVE SUMMARY

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. SCAQMD is proposing a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types. The City of Newport Beach will accept documents that use this threshold because it has been recommended by SCAQMD and SCAQMD is the expert agency and regional authority for air quality in the South Coast Air Basin. Further, the Interim Thresholds document provides substantial evidence that the thresholds are consistent with the policy and goals and GHG reduction targets set by the State. For purposes of this analysis, the SCAQMD's project-level thresholds are used.

The Project will result in approximately 539.83 MTCO2e per year; the proposed project would not exceed the SCAQMD threshold of 3,000 MTCO2e per year. Thus, project-related emissions would not have a significant direct or indirect impact on GHG and climate change.

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1 INTRODUCTION

This report presents the results of the greenhouse gas analysis (GHGA) prepared by Urban Crossroads, Inc., for the proposed Newport Center Villas (referred to as "Project"), which is located at 150 Newport Ctr. Dr. in the City of Newport Beach.

The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of greenhouse gas (GHG) impacts as a result of constructing and operating the proposed Project.

1.1 PROJECT OVERVIEW

The proposed Project site consists of the development of a 7-story, 49-unit condominium building with three levels of subterranean parking as shown on Exhibit 1-A. For the purposes of this GHGA, it is assumed that the Project will be constructed and at full occupancy by 2018.

1.2 EXISTING LAND USES

The Project site is currently occupied by existing Beacon Bay Car Wash. As a "conservative measure" (in an effort to overstate, rather than understate Project impacts), no "credit" was taken from the existing use and all Project impacts are assumed to be "new" to the site.

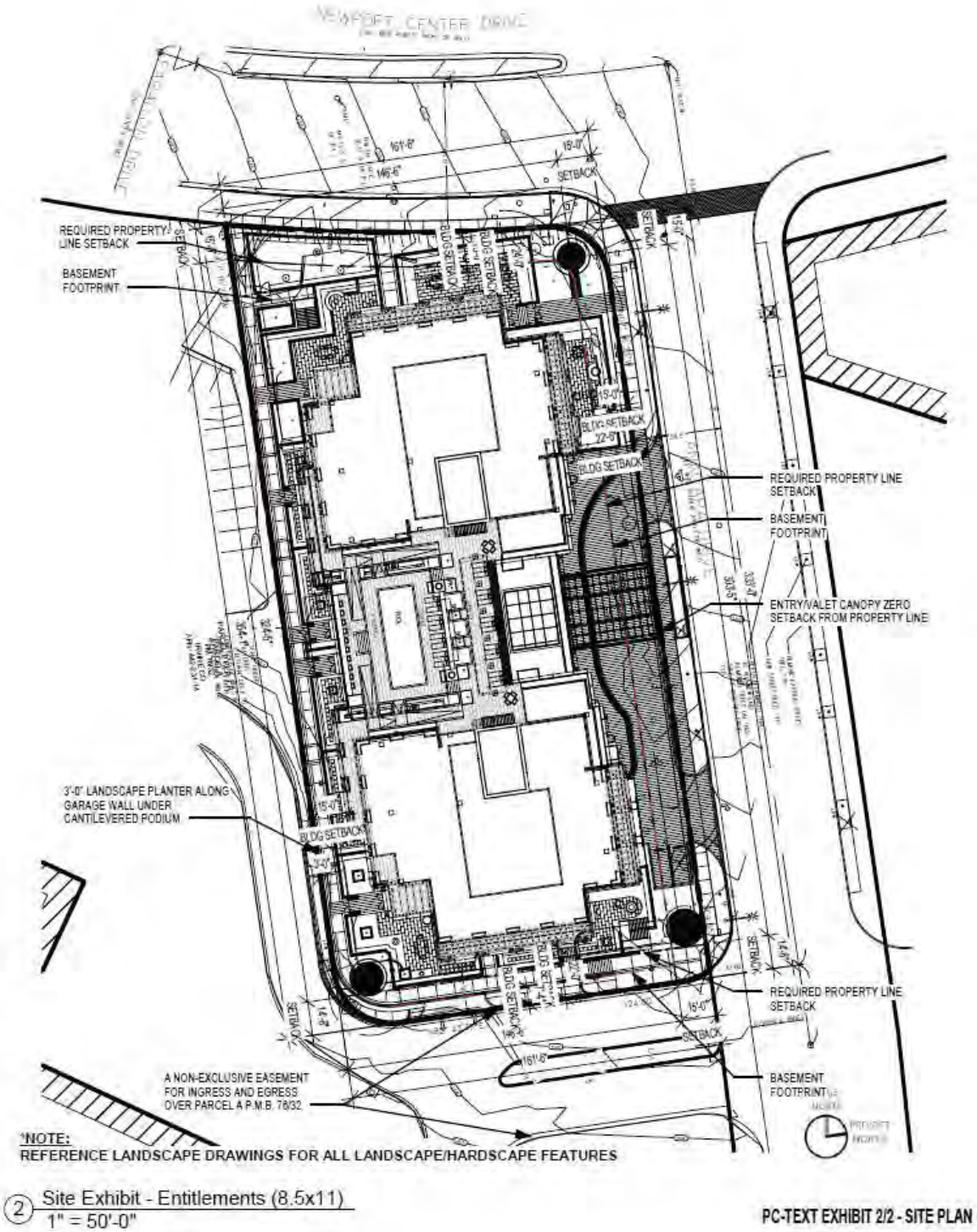
1.3 REGULATORY REQUIREMENTS

The Project would be required to comply with all mandates imposed by the State of California and the South Coast Air Quality Management District aimed at the reduction of air quality emissions. Those that are applicable to the Project and that would assist in the reduction of greenhouse gas emissions are:

- Global Warming Solutions Act of 2006 (AB32) (1)
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (SB 375) (2)
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new vehicles (3).
- Title 24 California Code of Regulations (California Building Code). Establishes energy efficiency requirements for new construction (4).
- Title 20 California Code of Regulations (Appliance Energy Efficiency Standards). Establishes energy efficiency requirements for appliances (5).
- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires carbon content of fuel sold in California to be 10% less by 2020 (6).
- California Water Conservation in Landscaping Act of 2006 (AB1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes (7).
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (8).

- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020 (9).

EXHIBIT 1-A: PRELIMINARY SITE PLAN



2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GREENHOUSE GAS EMISSIONS INVENTORIES

Global

Worldwide anthropogenic (man-made) GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions data for Annex I nations are available through 2011. For the Year 2011 the sum of these emissions totaled approximately 25,285,543 Gg CO2e[1] (10) (11). The GHG emissions in more recent years may differ from the inventories presented in Table 2-1; however, the data is representative of currently available inventory data.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF,"

United States

As noted in Table 2-1, the United States, as a single country, was the number two producer of GHG emissions in 2011. The primary greenhouse gas emitted by human activities in the United States was CO2, representing approximately 83 percent of total greenhouse gas emissions (12). Carbon dioxide from fossil fuel combustion, the largest source of US greenhouse gas emissions, accounted for approximately 78 percent of the GHG emissions.

TABLE 2-1: TOP GHG PRODUCER COUNTRIES AND THE EUROPEAN UNION[2]

Emitting Countries	GHG Emissions (Gg CO2e)
China	8,715,307
United States	6,665,700
European Union (27 member countries)	4,550,212
Russian Federation	2,320,834
India	1,725,762
Japan	1,307,728
Total	**25,285,543**

State of California

CARB compiles GHG inventories for the State of California. Based upon the 2008 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2008 greenhouse gas emissions inventory, California emitted 474 MMTCO2e including emissions resulting from imported electrical power in 2008 (13). Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute (14), California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 MMTCO2e excluding emissions related to imported power.

2.3 GLOBAL CLIMATE CHANGE DEFINED

Global Climate Change (GCC) refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO2 (Carbon Dioxide), N2O (Nitrous Oxide), CH4 (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages. According to the California Air Resources Board (CARB), the climate change since the industrial revolution differs from previous climate changes in both rate and magnitude (15).

[2] Used http://unfccc.int data for Annex I countries. Consulted the http://www.eia.gov site to reference Non-Annex I countries such as China and India.

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. Greenhouse gases are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

Although California's rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor to the U.S. emissions inventory total. In 2004, California is estimated to have produced 492 million gross metric tons of carbon dioxide equivalent (CO2e) greenhouse gas emissions. Despite a population increase of 16 percent between 1990 and 2004, California has significantly slowed the rate of growth of greenhouse gas emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls (14).

2.4 GREENHOUSE GASES

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated (see Table 3-4 later in this report) because these gasses are the primary contributors to GCC from development projects. Although other substances such as fluorinated gases also contribute to GCC, sources of fluorinated gases are not well-defined and no accepted emissions factors or methodology exist to accurately calculate these gases.

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized at Table 2-2. As shown in the table below, GWP range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride.

TABLE 2-2: GLOBAL WARMING POTENTIAL AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50-200	1
Methane	12 ± 3	25
Nitrous Oxide	120	298
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CH4)	50,000	6,500
PFC: Hexafluoroethane (C2F6)	10,000	9,200
Sulfur Hexafluoride (SF6)	3,200	23,900
Source: Environmental Protection Agency (EPA) 2013 (URL: http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/2013-data-elements.pdf)		

Water Vapor: Water vapor (H20) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

There are no human health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include: evaporation from other water bodies,

sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide: Carbon dioxide (CO2) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (16).

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (17).

Methane: Methane (CH4) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide: Nitrous oxide (N2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (18).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction

Chlorofluorocarbons: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C2H6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons: Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF3), HFC-134a (CF3CH2F), and HFC-152a (CH3CHF2). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt (19). No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF4) and hexafluoroethane (C2F6). The U.S. EPA estimates that concentrations of CF4 in the atmosphere are over 70 ppt.

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride: Sulfur hexafluoride (SF6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

2.5 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

Public Health

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

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

Water Resources

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

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

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

Agriculture

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

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

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

Forests and Landscapes

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea

level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.6 HUMAN HEALTH EFFECTS

The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (20). Exhibit 2-A presents the potential impacts of global warming.

Water Vapor: There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Carbon Dioxide: According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated to be approximately 370 parts per million (ppm), the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (21).

Specific health effects associated with directly emitted GHG emissions are as follows:

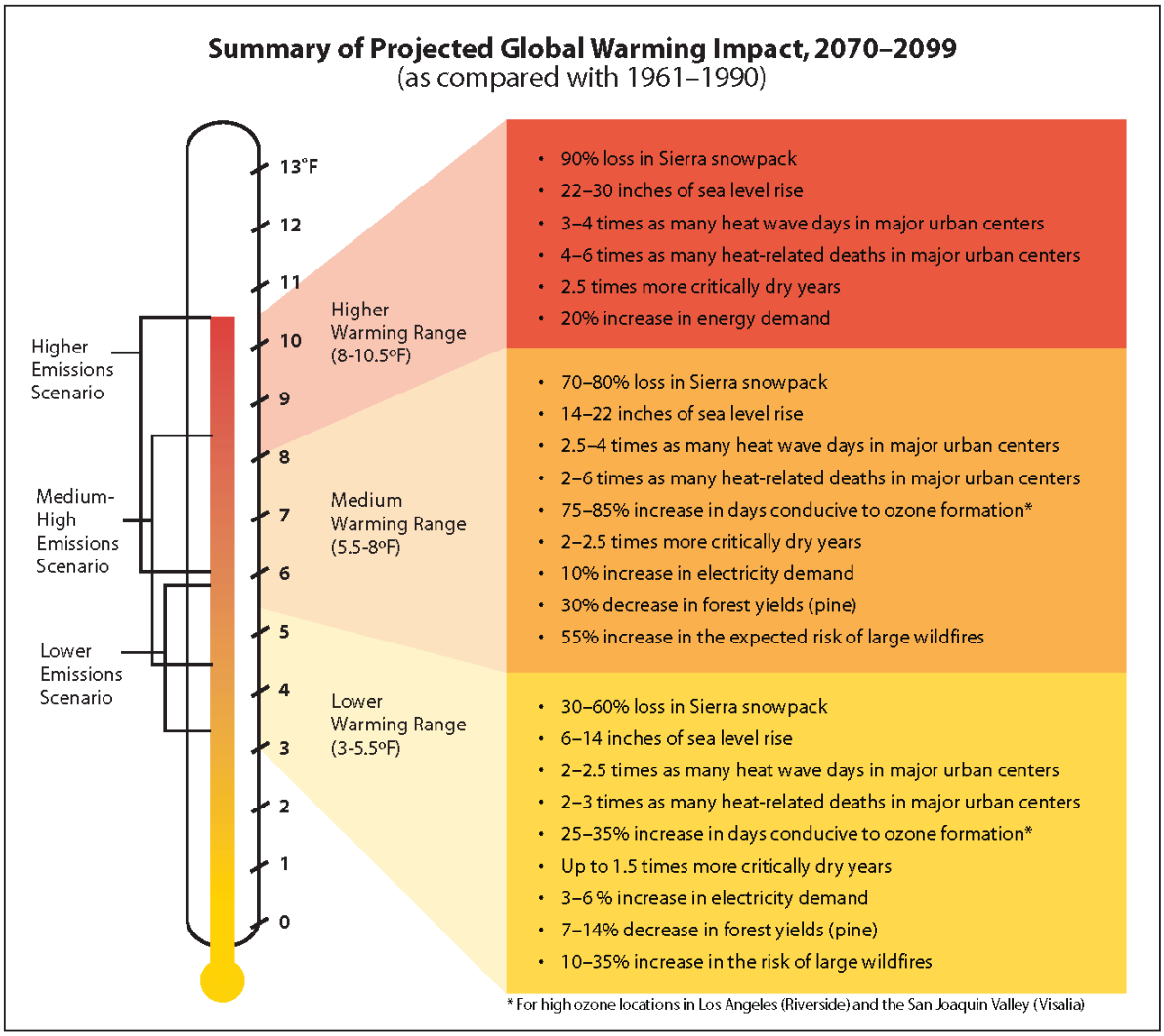
Methane: Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space (22).

Nitrous Oxide: Nitrous Oxide is often referred to as laughing gas; it is a colorless greenhouse gas. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage (22).

Fluorinated Gases: High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality (21).

Aerosols: The health effects of aerosols are similar to that of other fine particulate matter. Thus aerosols can cause elevated respiratory and cardiovascular diseases as well as increased mortality (23).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT



2.7 REGULATORY SETTING

International Regulation and the Kyoto Protocol:

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate

Change Action Plan was developed to address the reduction of GHGs in the United States. The Plan currently consists of more than 50 voluntary programs for member nations to adopt.

The Kyoto protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Kyoto protocol are met, global GHG emissions could be reduced an estimated five percent from 1990 levels during the first commitment period of 2008-2012. Notably, while the United States is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments. In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Kyoto.

Federal Regulation and the Clean Air Act:

Coinciding 2009 meeting in Copenhagen, on December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the EPA has not promulgated regulations on GHG emissions, but it has already begun to develop them.

Previously the EPA had not regulated GHGs under the Clean Air Act (24) because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In Massachusetts v. Environmental Protection Agency et al. (127 S. Ct. 1438 (2007), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before the U.S. Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the unintended reduction of greenhouse gas emissions. In order to manage the state's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975.

Title 24 Energy Standards:

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (4) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings

subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The Energy Commission's most recent standard, 2013 Building Energy Efficiency Standard, is 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The Standards, which took effect on January 1, 2014, offer builders better windows, insulation, lighting, ventilation systems and other features that reduce energy consumption in homes and businesses. Some improved measures in the Standards include:

Residential:

- Solar-ready roofs to allow homeowners to add solar photovoltaic panels at a future date
- More efficient windows to allow increased sunlight, while decreasing heat gain
- Insulated hot water pipes, to save water and energy and reduce the time it takes to deliver hot water
- Whole house fans to cool homes and attics with evening air reducing the need for air conditioning load
- Air conditioner installation verification to insure efficient operation

Nonresidential:

- High performance windows, sensors and controls that allow buildings to use "daylighting"
- Efficient process equipment in supermarkets, computer data centers, commercial kitchens, laboratories, and parking garages
- Advanced lighting controls to synchronize light levels with daylight and building occupancy, and provide demand response capability
- Solar-ready roofs to allow businesses to add solar photovoltaic panels at a future date
- Cool roof technologies

CALGreen

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code) (25). The purpose of the CALGreen Code is to “improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality.” The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). The CBSC has released the 2010 California Green Building Standards Code on its Web site. Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

CALGreen contains both mandatory and voluntary measures, for Non-Residential land uses there are 39 mandatory measures including, but not limited to: exterior light pollution

reduction, wastewater reduction by 20%, and commissioning of projects over 10,000 sf. There are two tiers of voluntary measures for Non-Residential land uses for a total of 36 additional elective measures.

The 2013 CALGreen includes additions and amendments to the water efficiency standards for non residential buildings in order to comply with the reduced flow rate table. The 2013 CALGreen has also been rewritten to clarify and definitively identify the requirements and applicability for residential and nonresidential buildings.

California Assembly Bill No. 1493 (AB 1493):

AB 1493 requires CARB to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The Legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in California (3). Further, the legislature stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

To meet the requirements of AB 1493, ARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961) and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016.

In December 2004 a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against ARB to prevent enforcement of CCR 13 1900 and CCR 13 1961 as amended by AB 1493 and CCR 13 1961.1 (Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon, in her official capacity as Executive Director of the California Air Resources Board, et al.). The suit, heard in the U.S. District Court for the Eastern District of California, contended that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies. In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court Case, Massachusetts vs. EPA, the primary issue in question is whether the federal CAA provides authority for USEPA to regulate CO2 emissions. In April 2007, the U.S. Supreme Court ruled in Massachusetts' favor, holding that GHGs are air pollutants under the CAA. On December 11, 2007, the judge in the Central Valley Chrysler-Jeep case rejected each plaintiff's arguments and ruled in California's favor. On December 19, 2007, the USEPA denied California's waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging USEPA's denial on January 2, 2008.

The Obama administration subsequently directed the USEPA to re-examine their decision. On May 19, 2009, challenging parties, automakers, the State of California, and the federal government reached an agreement on a series of actions that would resolve these current and

potential future disputes over the standards through model year 2016. In summary, the USEPA and the U.S. Department of Transportation agreed to adopt a federal program to reduce GHGs and improve fuel economy, respectively, from passenger vehicles in order to achieve equivalent or greater greenhouse gas benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed to (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by "pooling" California and specified State vehicle sales; (2) revise its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California's standards; and (3) revise its standards, as necessary, to allow manufacturers to use emissions data from the federal CAFE program to demonstrate compliance with the AB 1493 regulations (CARB 2009, http://www.arb.ca.gov/regact/2009/ghgpv09/ghgpvisor.pdf) both of these programs are aimed at light-duty auto and light-duty trucks.

Executive Order S-3-05:

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change (26). It declares that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 1990 level by 2020, and to 80% below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary also is required to submit biannual reports to the Governor and state Legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Action Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

California Assembly Bill 32 (AB 32):

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by the year 2020 (27). This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 MMTs (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent). Accordingly, 427 MMTs of CO2 equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions (without the 28.4 percent reduction to be implemented by CARB regulations) for 2020 were projected to be 596 MMTs.

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plants, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO2 emissions in the State.

On December 11, 2008, CARB adopted a scoping plan to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020.

Table 2-3 shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5 MMTons of CO2e, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 MMTons tons of CO2e (or approximately 1.2 percent of the GHG reduction target).

Overall, CARB determined that achieving the 1990 emission level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent in the absence of new laws and regulations (referred to as "Business-As-Usual" [BAU]). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and California Climate Action

TABLE 2-3: SCOPING PLAN GHG REDUCTION MEASURES TOWARDS 2020 TARGET

Recommended Reduction Measures	*Reductions Counted toward 2020 Target of 169 MMT CO2e*	*Percentage of Statewide 2020 Target*
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined[2]	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB. 2008, MMTons CO2e: million metric tons of CO2e

[1]Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.

[2]According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target

Team early actions and additional GHG reduction measures, identifies additional measures to be pursued as regulations, and outlines the role of the cap-and-trade program.

In connection with its preparation of the August 2011 Final Supplement to the Scoping Plan's Functional Equivalent Document, CARB released revised estimates of the 2020 emissions level projection in light of the economic recession and the availability of updated information from development of measure-specific regulations. Based on the new economic data, CARB determined the 2020 emissions level projection in the BAU condition would be reduced from 596 metric tons of CO2 equivalent (MTCO2e) to 545 MTCO2e. (28) Under this scenario, achieving the 1990 emissions level in 2020 would require a reduction of GHG emissions of 118 MTCO2e, or 21.7 percent (down from 28.5 percent), from the BAU condition.

When the 2020 emissions level projection also was updated to account for implemented regulatory measures, including Pavley (vehicle model-years 2009 - 2016) and the renewable portfolio standard (12% - 20%), the 2020 projection in the BAU condition was reduced further to 507 MTCO2e. As a result, based on the updated economic and regulatory data, CARB determined that achieving the 1990 emissions level in 2020 would now only require a reduction of GHG emissions of 80 MTCO2e, or approximately 16 percent (down from 28.5 percent), from the BAU condition. (28) (29)

On February 10, 2014, CARB released a Draft Proposed First Update of the Scoping Plan. The draft recalculates 1990 GHG emissions using new global warming potentials identified in the IPCC Fourth Assessment Report released in 2007. Using those GWPs, the 427 MTCO2e 1990 emissions level and 2020 GHG emissions limit identified in the 2008 Scoping Plan would be slightly higher, at 431 MTCO2e. (30) Based on the revised 2020 emissions level projection identified in the 2011 Final Supplement and the updated 1990 emissions levels identified in the discussion draft of the First Update, achieving the 1990 emissions level in 2020 would require a reduction of 78 MTCO2e (down from 509 MTCO2e), or approximately 15.3 percent (down from 28.5 percent), from the BAU condition. (28) (29) (30)

Although CARB has released an update to the Scoping Plan and reduction targets from BAU, it is still appropriate to utilize the previous 28.5% reduction from BAU since the modeling tools available are not able to easily segregate the inclusion of the renewable portfolio standards, and Pavley requirements that are now included in the revised BAU scenario.

California Senate Bill No. 1368 (SB 1368):

In 2006, the State Legislature adopted Senate Bill 1368 ("SB 1368"), which was subsequently signed into law by the Governor (31). SB 1368 directs the California Public Utilities Commission ("CPUC") to adopt a greenhouse gas emission performance standard ("EPS") for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Due to the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants.

Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out of state producers that cannot satisfy the EPS standard required by SB 1368.

Senate Bill 97 (SB 97):

Pursuant to the direction of SB 97, OPR released preliminary draft CEQA Guideline amendments for greenhouse gas emissions on January 8, 2009, and submitted its final proposed guidelines to the Secretary for Natural Resources on April 13, 2009 (32). The Natural Resources Agency adopted the Guideline amendments and they became effective on March 18, 2010.

Of note, the new guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology, or in the alternative, rely on a qualitative analysis or performance based standards. CEQA Guideline § 15064.4(a)"A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance based standards."

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a Project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emission are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support determination that a Project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. (See CEQA Guidelines Section 15130(f)).

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of greenhouse gas emissions:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The CEQA Guideline amendments do not identify a threshold of significance for greenhouse gas emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a "good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. Specific GHG language incorporated in the Guidelines' suggested Environmental Checklist (Guidelines Appendix G) is as follows:

VII. GREENHOUSE GAS EMISSIONS

Would the project:

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

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

Executive Order S-01-07:

On January 18, 2007 California Governor Arnold Schwarzenegger, through Executive Order S-01-07, mandated a statewide goal to reduce the carbon intensity of California's transportation fuel by at least ten percent by 2020 (33). The order also requires that a California specific Low Carbon Fuel Standard be established for transportation fuels.

Senate Bills 1078 and 107 and Executive Order S-14-08:

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20% of their supply from renewable sources by 2017 (34). SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010 (33). In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33% renewable power by 2020 (35).

Executive Order B-30-15:

On April 29, 2015 California Governor Jerry Brown, through Executive Order B-30-15 ("BEO") states a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. It should be noted that the BEO was issued after the notice of preparation date for the Project of April 1, 2015.

The BEO sets an ambitious new Statewide GHG emissions reduction target of 40% below 1990 levels by 2030 as a "mid-term" benchmark needed to achieve the 80% below 1990 levels by 2050. It should be noted however that this target has not been formally enacted by the Legislature or even CARB. As such, the BEO does not appear to constitute a new regulation or requirement adopted to implement a statewide, regional or local plan for the reduction of GHG emissions within the context of CEQA.

The Project reduces its GHG emissions to the maximum extent feasible as discussed in this document. At this time, no further analysis is necessary or required by CEQA as it pertains to Executive Order B-30-15.

Senate Bill 375:

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation (36). SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. ARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035.

These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

The Southern California Association of Governments (SCAG) is required by law to update the Southern California Regional Transportation Plan (RTP) every four years. The 2012 draft plan has been released, this draft plan differs from past plans because it includes development of a SCS. The RTP/SCS incorporates land use and housing policies to meet the greenhouse gas emissions targets established by the California Air Resource Board (CARB) for 2020 (8%

reduction) and 2035 (13% reduction). On April 4, 2012, the Regional Council of the Southern California Association of Governments (SCAG) adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future.

CARB's Preliminary Draft Staff Proposal for Interim Significance Thresholds:

Separate from its Scoping Plan approved in December of 2008 (37), CARB issued a Staff Proposal in October 2008, as its first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. CARB staff's objective in this proposal is to develop a threshold of significance that will result in the vast majority (approximately 90 percent statewide) of GHG emissions from new industrial projects being subject to CEQA's requirement to impose feasible mitigation. The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects. CARB is developing these thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. These draft thresholds are under revision in response to comments. There is currently no timetable for finalized thresholds at this time.

As currently proposed by CARB, a quantitative threshold of 7,000 metric tons (MT) of CO2e per year for operational emissions (excluding transportation), and performance standards yet to be defined for construction and transportation emissions are under consideration. However, CARB's proposal is not yet final, and thus cannot be applied to the Project.

South Coast Air Quality Management District Recommendations for Significance Thresholds:

In April 2008, the South Coast Air Quality Management District (SCAQMD), in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a "GHG CEQA Significance Threshold Working Group." The goal of the working group is to develop and reach consensus on an acceptable CEQA significance threshold for GHG emissions that would be utilized on an interim basis until CARB (or some other state agency) develops statewide guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects—residential; non-residential; industrial; etc (38). However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing Board with a significance threshold for stationary source projects where it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons of carbon dioxide equivalent (MTCO2e) as a screening numerical threshold for stationary sources. More importantly it should be noted that when setting the 10,000 MTCO2e threshold, the SCAQMD did not consider mobile sources (vehicular travel), rather the threshold is based mainly on stationary source generators such as boilers, refineries, power plants, etc. Therefore it would be misleading to apply a threshold that was developed without

consideration for mobile sources to a Project where the majority of emissions are related to mobile sources. Thus there is no SCAQMD threshold that can be applied to this Project.

In September 2010 (39), the Working Group released additional revisions that consist of the following recommended tiered approach:

- Tier 1 consists of evaluating whether or not the Project qualifies for applicable CEQA exemptions.
- Tier 2 consists of determining whether or not a Project is consistent with a greenhouse gas reduction plan. If a Project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.
- Tier 3 consists of screening values at the discretion of the lead agency; however they should be consistent for all projects within its jurisdiction. Project-related construction emissions should be amortized over 30 years and should be added back the Project's operational emissions. The following thresholds are proposed for consideration:
    - 3,000 MTCO2e per year for all land use types

      or
    - 3,500 MTCO2e per year for residential; 1,400 MTCO2e per year for commercial; or 3,000 MTCO2e per year for mixed-use projects
- Tier 4 has the following options:
    - Option 1: Reduce emissions from business as usual by a certain percentage (currently undefined)
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
    - Option 3: A project-level efficiency target of 4.8 MTCO2e per service population as a 2020 target and 3.0 MTCO2e per service population as a 2035 target. The recommended plan-level target for 2020 is 6.6 MTCO2e and the plan level target for 2035 is 4.1 MTCO2e
- Tier 5 involves mitigation offsets to achieve target significance thresholds

The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions. However, these rules address boilers and process heater, forestry, and manure management projects, none of which are required by the Project

2.8 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

Currently, there are no adopted thresholds for GHG emissions for projects within the SCAQMD region. However, SCAQMD has convened a Working Group to identify GHG thresholds for use in the SCAB for projects where SCAQMD is serving as the Lead Agency. The draft threshold indicates that for projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, an assessment of GHG emissions is required. SCAQMD is considering a screening level threshold of 3,000 metric tons (MTons) of CO2e annually for all land use types, including residential uses. This threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review, 90 percent of CEQA projects would exceed 3,000 MTons per year. Projects that exceed the screening threshold

would require additional technical analysis to determine the level of significance. The City of Newport Beach relies upon the SCAQMD draft screening level threshold; therefore, for purposes of analysis herein, the proposed Project may have a significant adverse impact on GHG emissions if it would result in excess of 3,000 MTCO2e per year.

3 PROJECT GREENHOUSE GAS IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant greenhouse gas impact. The significance of these potential impacts is described in the following section.

3.2 PROJECT RELATED GREENHOUSE GAS EMISSIONS

CEQA Guidelines 15064.4 (b) (1) states that a lead agency may use a model or methodology to quantify greenhouse gas emissions associated with a project (40).

On October 2, 2013, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2013.2.2. The purpose of this model is to more accurately calculate construction-source and operational-source criteria pollutant (NO_x, VOC, PM_{10}, $PM_{2.5}$, SO_x, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (41). Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality impacts. Output from the model runs for both construction and operational activity are provided in Appendix 3.1

3.3 CONSTRUCTION AND OPERATIONAL LIFE-CYCLE ANALYSIS

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time. Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development, infrastructure and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time a LCA would be extremely speculative and thus has not been prepared.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the proposed Project will result in emissions of CO2 and CH4 from construction activities.

The report Newport Center Villas Air Quality Impact Analysis Report, Urban Crossroads, Inc. (2014) contains detailed information regarding construction activity (42).

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by the a 30 year project life then adding that number to the annual operational phase GHG emissions (43). As such, construction emissions were amortized over a 30 year period and added to the annual operational phase GHG emissions.

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the proposed Project will result in emissions of CO2, CH4, and N2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Solid Waste
- Water Supply, Treatment and Distribution

3.5.1 AREA SOURCE EMISSIONS

Hearths/Fireplaces

GHG emissions would result from the combustion of wood or biomass and are considered biogenic emissions of CO2. The emissions associated with use of hearths/fireplaces were calculated based on assumptions provided in the CalEEMod model. The Project is required to comply with SCAQMD Rule 445, which prohibits the use of wood burning stoves and fireplaces in new development. In order to account for the requirements of this Rule, the unmitigated CalEEMod model estimates were adjusted to remove wood burning stoves and fireplaces. As the project is required to comply with SCAQMD Rule 445, the removal of wood burning stoves and fireplaces is not considered "mitigation" although it must be identified as such in CalEEMod in order to treat the case appropriately.

Landscape Maintenance Equipment

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. The emissions associated with landscape maintenance equipment were calculated based on assumptions provided in the CalEEMod model.

3.5.2 ENERGY SOURCE EMISSIONS

Combustion Emissions Associated with Natural Gas and Electricity

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Unless otherwise noted, CalEEMod™ default parameters were used.

3.5.3 MOBILE SOURCE EMISSIONS

Vehicles

GHG emissions will also result from mobile sources associated with the Project. These mobile source emissions will result from the typical daily operation of motor vehicles by visitors, employees, and residents.

3.5.4 SOLID WASTE

Residential land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by the CalEEMod™ model using default parameters.

3.5.5 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod™ default parameters were used.

3.6 EMISSIONS SUMMARY

The annual GHG emissions associated with the operation of the proposed Project are estimated to be 539.83 MTCO2e per year as summarized in Table 3-1. Direct and indirect operational emissions associated with the Project are compared with the SCAQMD threshold of significance for residential use projects, which is 3,000 MTCO2e per year (44). As shown, the proposed Project would result in a less than significant impact with respect to GHG emissions

TABLE 3-1: TOTAL PROJECT GREENHOUSE GAS EMISSIONS (ANNUAL)

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual construction-related emissions amortized over 30 years	27.97	3.67e-3	--	28.04
Area [a]	16.04	0.02	3.50e-4	16.49
Energy [b]	199.23	8.05e-3	2.26e-3	200.10
Mobile Sources [c]	262.41	9.87e-3	--	262.62
Waste	4.58	0.27	--	10.25
Water Usage	19.31	0.10	2.63e-3	22.33
Total CO_2E (All Sources)	**539.83**			

Source: CalEEMod™ model output, See Appendix 3.1 for detailed model outputs.
Note: Totals obtained from CalEEMod™ and may not total 100% due to rounding.
Table results include scientific notation. *e* is used to represent *times ten raised to the power of* (which would be written as x 10^{b}") and is followed by the value of the exponent
[a] Includes emissions of landscape maintenance equipment and architectural coatings emissions
[b] Includes emissions of natural gas consumption
[c] Includes emissions of vehicle emissions and fugitive dust related to vehicular travel

4 FINDINGS & CONCLUSIONS

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency. SCAQMD is proposing a screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types. The City of Newport Beach will accept documents that use this threshold because it has been recommended by SCAQMD and SCAQMD is the expert agency and regional authority for air quality in the South Coast Air Basin. Further, the Interim Thresholds document provides substantial evidence that the thresholds are consistent with the policy and goals and GHG reduction targets set by the State. For purposes of this analysis, the SCAQMD's project-level thresholds are used.

The Project will result in approximately 539.83 MTCO2e per year; the proposed project would not exceed the SCAQMD threshold of 3,000 MTCO2e per year. Thus, project-related emissions would not have a significant direct or indirect impact on GHG and climate change.

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6 CERTIFICATION

The contents of this greenhouse gas study report represent an accurate depiction of the greenhouse gas impacts associated with the proposed Newport Center Villas Project. The information contained in this greenhouse gas report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 217.

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PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
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ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June, 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008
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Air Dispersion Modeling – Lakes Environmental • June, 2006

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APPENDIX 3.1:

CALEEMOD EMISSIONS MODEL OUTPUTS

Newport Center Villas

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	126.00	Space	1.13	50,400.00	0
Condo/Townhouse High Rise	49.00	Dwelling Unit	0.77	49,000.00	140

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Duration: 2 years

Demolition -

Grading -

Vehicle Trips - Source: Institute of Transportation Engineers (ITE) Trip Generation Handbook (9th Edition, 2012)

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	200.00	400.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	2.00	4.00
tblGrading	AcresOfGrading	11.25	3.00
tblGrading	MaterialExported	0.00	51,600.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	7.16	4.31
tblVehicleTrips	SU_TR	6.07	3.43
tblVehicleTrips	WD_TR	6.59	4.18

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4929	3.9278	3.2032	6.1600e-003	0.2094	0.1980	0.4074	0.0776	0.1884	0.2661	0.0000	538.3893	538.3893	0.0610	0.0000	539.6703
2017	0.8858	2.3279	2.0940	3.6200e-003	0.0771	0.1424	0.2194	0.0206	0.1370	0.1577	0.0000	298.2945	298.2945	0.0483	0.0000	299.3082
2018	0.2542	0.0133	0.0152	3.0000e-005	7.8000e-004	9.8000e-004	1.7700e-003	2.1000e-004	9.8000e-004	1.1900e-003	0.0000	2.3142	2.3142	1.9000e-004	0.0000	2.3182
Total	**1.6330**	**6.2690**	**5.3124**	**9.8100e-003**	**0.2872**	**0.3414**	**0.6286**	**0.0985**	**0.3264**	**0.4249**	**0.0000**	**838.9980**	**838.9980**	**0.1095**	**0.0000**	**841.2967**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.4929	3.9278	3.2032	6.1600e-003	0.2094	0.1980	0.4074	0.0776	0.1884	0.2661	0.0000	538.3890	538.3890	0.0610	0.0000	539.6700
2017	0.8858	2.3279	2.0940	3.6200e-003	0.0771	0.1424	0.2194	0.0206	0.1370	0.1577	0.0000	298.2942	298.2942	0.0483	0.0000	299.3080
2018	0.2542	0.0133	0.0152	3.0000e-005	7.8000e-004	9.8000e-004	1.7700e-003	2.1000e-004	9.8000e-004	1.1900e-003	0.0000	2.3142	2.3142	1.9000e-004	0.0000	2.3182
Total	**1.6330**	**6.2690**	**5.3124**	**9.8100e-003**	**0.2872**	**0.3414**	**0.6286**	**0.0985**	**0.3264**	**0.4249**	**0.0000**	**838.9975**	**838.9975**	**0.1095**	**0.0000**	**841.2961**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6131	9.9900e-003	0.8184	5.2000e-004		0.0496	0.0496		0.0496	0.0496	5.2047	10.8303	16.0350	0.0164	3.5000e-004	16.4878
Energy	4.1800e-003	0.0357	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	199.2306	199.2306	8.0500e-003	2.2600e-003	200.1001
Mobile	0.1050	0.2765	1.2274	3.5500e-003	0.2588	3.8600e-003	0.2627	0.0692	3.5600e-003	0.0727	0.0000	262.4146	262.4146	9.8700e-003	0.0000	262.6219
Waste						0.0000	0.0000		0.0000	0.0000	4.5754	0.0000	4.5754	0.2704	0.0000	10.2538
Water						0.0000	0.0000		0.0000	0.0000	1.0129	18.2950	19.3078	0.1049	2.6300e-003	22.3255
Total	**0.7223**	**0.3222**	**2.0610**	**4.3000e-003**	**0.2588**	**0.0563**	**0.3151**	**0.0692**	**0.0560**	**0.1252**	**10.7930**	**490.7705**	**501.5634**	**0.4095**	**5.2400e-003**	**511.7892**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6131	9.9900e-003	0.8184	5.2000e-004		0.0496	0.0496		0.0496	0.0496	5.2047	10.8303	16.0350	0.0164	3.5000e-004	16.4878
Energy	4.1800e-003	0.0357	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	199.2306	199.2306	8.0500e-003	2.2600e-003	200.1001
Mobile	0.1050	0.2765	1.2274	3.5500e-003	0.2588	3.8600e-003	0.2627	0.0692	3.5600e-003	0.0727	0.0000	262.4146	262.4146	9.8700e-003	0.0000	262.6219
Waste						0.0000	0.0000		0.0000	0.0000	4.5754	0.0000	4.5754	0.2704	0.0000	10.2538
Water						0.0000	0.0000		0.0000	0.0000	1.0129	18.2950	19.3078	0.1049	2.6300e-003	22.3239
Total	**0.7223**	**0.3222**	**2.0610**	**4.3000e-003**	**0.2588**	**0.0563**	**0.3151**	**0.0692**	**0.0560**	**0.1252**	**10.7930**	**490.7705**	**501.5634**	**0.4095**	**5.2400e-003**	**511.7876**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	2/25/2016	5	40	
2	Site Preparation	Site Preparation	2/26/2016	3/2/2016	5	4	
3	Grading	Grading	3/3/2016	4/13/2016	5	30	
4	Building Construction	Building Construction	4/14/2016	10/25/2017	5	400	
5	Paving	Paving	10/26/2017	11/22/2017	5	20	
6	Architectural Coating	Architectural Coating	11/23/2017	1/17/2018	5	40	

Acres of Grading (Site Preparation Phase): 2

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 99,225; Residential Outdoor: 33,075; Non-Residential Indoor: 75,600; Non-Residential Outdoor: 25,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	6,450.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	56.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.6000e-004	0.0000	8.6000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0581	0.5652	0.4300	4.9000e-004		0.0349	0.0349		0.0327	0.0327	0.0000	45.1257	45.1257	0.0114	0.0000	45.3653
Total	**0.0581**	**0.5652**	**0.4300**	**4.9000e-004**	**8.6000e-004**	**0.0349**	**0.0358**	**1.3000e-004**	**0.0327**	**0.0328**	**0.0000**	**45.1257**	**45.1257**	**0.0114**	**0.0000**	**45.3653**

3.2 Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	1.1600e-003	8.9000e-004	0.0000	7.0000e-005	2.0000e-005	9.0000e-005	2.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.2687	0.2687	0.0000	0.0000	0.2688
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	1.3200e-003	0.0137	3.0000e-005	2.8500e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5727	2.5727	1.3000e-004	0.0000	2.5754
Total	**9.7000e-004**	**2.4800e-003**	**0.0146**	**3.0000e-005**	**2.9200e-003**	**4.0000e-005**	**2.9600e-003**	**7.8000e-004**	**4.0000e-005**	**8.1000e-004**	**0.0000**	**2.8415**	**2.8415**	**1.3000e-004**	**0.0000**	**2.8442**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.6000e-004	0.0000	8.6000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0581	0.5652	0.4300	4.9000e-004		0.0349	0.0349		0.0327	0.0327	0.0000	45.1257	45.1257	0.0114	0.0000	45.3653
Total	**0.0581**	**0.5652**	**0.4300**	**4.9000e-004**	**8.6000e-004**	**0.0349**	**0.0358**	**1.3000e-004**	**0.0327**	**0.0328**	**0.0000**	**45.1257**	**45.1257**	**0.0114**	**0.0000**	**45.3653**

3.2 Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	1.1600e-003	8.9000e-004	0.0000	7.0000e-005	2.0000e-005	9.0000e-005	2.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.2687	0.2687	0.0000	0.0000	0.2688
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	1.3200e-003	0.0137	3.0000e-005	2.8500e-003	2.0000e-005	2.8700e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.5727	2.5727	1.3000e-004	0.0000	2.5754
Total	**9.7000e-004**	**2.4800e-003**	**0.0146**	**3.0000e-005**	**2.9200e-003**	**4.0000e-005**	**2.9600e-003**	**7.8000e-004**	**4.0000e-005**	**8.1000e-004**	**0.0000**	**2.8415**	**2.8415**	**1.3000e-004**	**0.0000**	**2.8442**

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0116	0.0000	0.0116	5.9100e-003	0.0000	5.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8900e-003	0.0515	0.0330	3.0000e-005		2.8000e-003	2.8000e-003		2.5700e-003	2.5700e-003	0.0000	3.2316	3.2316	9.7000e-004	0.0000	3.2520
Total	**4.8900e-003**	**0.0515**	**0.0330**	**3.0000e-005**	**0.0116**	**2.8000e-003**	**0.0144**	**5.9100e-003**	**2.5700e-003**	**8.4800e-003**	**0.0000**	**3.2316**	**3.2316**	**9.7000e-004**	**0.0000**	**3.2520**

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	8.0000e-005	8.4000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1583	0.1583	1.0000e-005	0.0000	0.1585
Total	**5.0000e-005**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1583**	**0.1583**	**1.0000e-005**	**0.0000**	**0.1585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0116	0.0000	0.0116	5.9100e-003	0.0000	5.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8900e-003	0.0515	0.0330	3.0000e-005		2.8000e-003	2.8000e-003		2.5700e-003	2.5700e-003	0.0000	3.2316	3.2316	9.7000e-004	0.0000	3.2520
Total	**4.8900e-003**	**0.0515**	**0.0330**	**3.0000e-005**	**0.0116**	**2.8000e-003**	**0.0144**	**5.9100e-003**	**2.5700e-003**	**8.4800e-003**	**0.0000**	**3.2316**	**3.2316**	**9.7000e-004**	**0.0000**	**3.2520**

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	8.0000e-005	8.4000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1583	0.1583	1.0000e-005	0.0000	0.1585
Total	**5.0000e-005**	**8.0000e-005**	**8.4000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1583**	**0.1583**	**1.0000e-005**	**0.0000**	**0.1585**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0723	0.0000	0.0723	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0299	0.3155	0.2051	2.1000e-004		0.0171	0.0171		0.0157	0.0157	0.0000	19.9061	19.9061	6.0000e-003	0.0000	20.0322
Total	**0.0299**	**0.3155**	**0.2051**	**2.1000e-004**	**0.0723**	**0.0171**	**0.0894**	**0.0379**	**0.0157**	**0.0536**	**0.0000**	**19.9061**	**19.9061**	**6.0000e-003**	**0.0000**	**20.0322**

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0616	0.9351	0.7185	2.3700e-003	0.0553	0.0134	0.0687	0.0152	0.0123	0.0275	0.0000	216.6744	216.6744	1.5500e-003	0.0000	216.7070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	6.1000e-004	6.3300e-003	2.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1874	1.1874	6.0000e-005	0.0000	1.1886
Total	**0.0620**	**0.9357**	**0.7248**	**2.3900e-003**	**0.0566**	**0.0134**	**0.0700**	**0.0155**	**0.0123**	**0.0278**	**0.0000**	**217.8618**	**217.8618**	**1.6100e-003**	**0.0000**	**217.8956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0723	0.0000	0.0723	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0299	0.3155	0.2051	2.1000e-004		0.0171	0.0171		0.0157	0.0157	0.0000	19.9061	19.9061	6.0000e-003	0.0000	20.0322
Total	**0.0299**	**0.3155**	**0.2051**	**2.1000e-004**	**0.0723**	**0.0171**	**0.0894**	**0.0379**	**0.0157**	**0.0536**	**0.0000**	**19.9061**	**19.9061**	**6.0000e-003**	**0.0000**	**20.0322**

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0616	0.9351	0.7185	2.3700e-003	0.0553	0.0134	0.0687	0.0152	0.0123	0.0275	0.0000	216.6744	216.6744	1.5500e-003	0.0000	216.7070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	6.1000e-004	6.3300e-003	2.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1874	1.1874	6.0000e-005	0.0000	1.1886
Total	**0.0620**	**0.9357**	**0.7248**	**2.3900e-003**	**0.0566**	**0.0134**	**0.0700**	**0.0155**	**0.0123**	**0.0278**	**0.0000**	**217.8618**	**217.8618**	**1.6100e-003**	**0.0000**	**217.8956**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3078	1.9210	1.3751	2.0500e-003		0.1277	0.1277		0.1232	0.1232	0.0000	173.6254	173.6254	0.0382	0.0000	174.4268
Total	**0.3078**	**1.9210**	**1.3751**	**2.0500e-003**		**0.1277**	**0.1277**		**0.1232**	**0.1232**	**0.0000**	**173.6254**	**173.6254**	**0.0382**	**0.0000**	**174.4268**

3.5 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0114	0.1097	0.1433	2.6000e-004	7.4800e-003	1.6700e-003	9.1600e-003	2.1400e-003	1.5400e-003	3.6700e-003	0.0000	23.8280	23.8280	1.7000e-004	0.0000	23.8316
Worker	0.0179	0.0265	0.2764	6.8000e-004	0.0575	4.1000e-004	0.0579	0.0153	3.8000e-004	0.0156	0.0000	51.8110	51.8110	2.5300e-003	0.0000	51.8642
Total	**0.0292**	**0.1362**	**0.4197**	**9.4000e-004**	**0.0650**	**2.0800e-003**	**0.0671**	**0.0174**	**1.9200e-003**	**0.0193**	**0.0000**	**75.6389**	**75.6389**	**2.7000e-003**	**0.0000**	**75.6958**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3078	1.9210	1.3751	2.0500e-003		0.1277	0.1277		0.1232	0.1232	0.0000	173.6252	173.6252	0.0382	0.0000	174.4266
Total	**0.3078**	**1.9210**	**1.3751**	**2.0500e-003**		**0.1277**	**0.1277**		**0.1232**	**0.1232**	**0.0000**	**173.6252**	**173.6252**	**0.0382**	**0.0000**	**174.4266**

3.5 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0114	0.1097	0.1433	2.6000e-004	7.4800e-003	1.6700e-003	9.1600e-003	2.1400e-003	1.5400e-003	3.6700e-003	0.0000	23.8280	23.8280	1.7000e-004	0.0000	23.8316
Worker	0.0179	0.0265	0.2764	6.8000e-004	0.0575	4.1000e-004	0.0579	0.0153	3.8000e-004	0.0156	0.0000	51.8110	51.8110	2.5300e-003	0.0000	51.8642
Total	**0.0292**	**0.1362**	**0.4197**	**9.4000e-004**	**0.0650**	**2.0800e-003**	**0.0671**	**0.0174**	**1.9200e-003**	**0.0193**	**0.0000**	**75.6389**	**75.6389**	**2.7000e-003**	**0.0000**	**75.6958**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3147	2.0351	1.5241	2.3400e-003		0.1305	0.1305		0.1259	0.1259	0.0000	196.5429	196.5429	0.0412	0.0000	197.4089
Total	**0.3147**	**2.0351**	**1.5241**	**2.3400e-003**		**0.1305**	**0.1305**		**0.1259**	**0.1259**	**0.0000**	**196.5429**	**196.5429**	**0.0412**	**0.0000**	**197.4089**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0119	0.1137	0.1545	3.0000e-004	8.5200e-003	1.7000e-003	0.0102	2.4300e-003	1.5600e-003	4.0000e-003	0.0000	26.6990	26.6990	1.9000e-004	0.0000	26.7030
Worker	0.0185	0.0274	0.2865	7.8000e-004	0.0655	4.6000e-004	0.0659	0.0174	4.2000e-004	0.0178	0.0000	56.7308	56.7308	2.6800e-003	0.0000	56.7871
Total	**0.0304**	**0.1411**	**0.4410**	**1.0800e-003**	**0.0740**	**2.1600e-003**	**0.0762**	**0.0198**	**1.9800e-003**	**0.0218**	**0.0000**	**83.4298**	**83.4298**	**2.8700e-003**	**0.0000**	**83.4900**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3147	2.0351	1.5241	2.3400e-003		0.1305	0.1305		0.1259	0.1259	0.0000	196.5427	196.5427	0.0412	0.0000	197.4087
Total	**0.3147**	**2.0351**	**1.5241**	**2.3400e-003**		**0.1305**	**0.1305**		**0.1259**	**0.1259**	**0.0000**	**196.5427**	**196.5427**	**0.0412**	**0.0000**	**197.4087**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0119	0.1137	0.1545	3.0000e-004	8.5200e-003	1.7000e-003	0.0102	2.4300e-003	1.5600e-003	4.0000e-003	0.0000	26.6990	26.6990	1.9000e-004	0.0000	26.7030
Worker	0.0185	0.0274	0.2865	7.8000e-004	0.0655	4.6000e-004	0.0659	0.0174	4.2000e-004	0.0178	0.0000	56.7308	56.7308	2.6800e-003	0.0000	56.7871
Total	**0.0304**	**0.1411**	**0.4410**	**1.0800e-003**	**0.0740**	**2.1600e-003**	**0.0762**	**0.0198**	**1.9800e-003**	**0.0218**	**0.0000**	**83.4298**	**83.4298**	**2.8700e-003**	**0.0000**	**83.4900**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1210	0.0903	1.3000e-004		7.3300e-003	7.3300e-003		6.7500e-003	6.7500e-003	0.0000	12.2257	12.2257	3.6800e-003	0.0000	12.3030
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0119**	**0.1210**	**0.0903**	**1.3000e-004**		**7.3300e-003**	**7.3300e-003**		**6.7500e-003**	**6.7500e-003**	**0.0000**	**12.2257**	**12.2257**	**3.6800e-003**	**0.0000**	**12.3030**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	6.0000e-004	6.2400e-003	2.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2366	1.2366	6.0000e-005	0.0000	1.2378
Total	**4.0000e-004**	**6.0000e-004**	**6.2400e-003**	**2.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2366**	**1.2366**	**6.0000e-005**	**0.0000**	**1.2378**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1210	0.0903	1.3000e-004		7.3300e-003	7.3300e-003		6.7500e-003	6.7500e-003	0.0000	12.2257	12.2257	3.6800e-003	0.0000	12.3029
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0119**	**0.1210**	**0.0903**	**1.3000e-004**		**7.3300e-003**	**7.3300e-003**		**6.7500e-003**	**6.7500e-003**	**0.0000**	**12.2257**	**12.2257**	**3.6800e-003**	**0.0000**	**12.3029**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	6.0000e-004	6.2400e-003	2.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2366	1.2366	6.0000e-005	0.0000	1.2378
Total	**4.0000e-004**	**6.0000e-004**	**6.2400e-003**	**2.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2366**	**1.2366**	**6.0000e-005**	**0.0000**	**1.2378**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5236					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4900e-003	0.0295	0.0252	4.0000e-005		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	3.4469	3.4469	3.6000e-004	0.0000	3.4545
Total	**0.5281**	**0.0295**	**0.0252**	**4.0000e-005**		**2.3400e-003**	**2.3400e-003**		**2.3400e-003**	**2.3400e-003**	**0.0000**	**3.4469**	**3.4469**	**3.6000e-004**	**0.0000**	**3.4545**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	6.8000e-004	7.1300e-003	2.0000e-005	1.6300e-003	1.0000e-005	1.6400e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.4126	1.4126	7.0000e-005	0.0000	1.4140
Total	**4.6000e-004**	**6.8000e-004**	**7.1300e-003**	**2.0000e-005**	**1.6300e-003**	**1.0000e-005**	**1.6400e-003**	**4.3000e-004**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**1.4126**	**1.4126**	**7.0000e-005**	**0.0000**	**1.4140**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5236					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4900e-003	0.0295	0.0252	4.0000e-005		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	3.4469	3.4469	3.6000e-004	0.0000	3.4545
Total	**0.5281**	**0.0295**	**0.0252**	**4.0000e-005**		**2.3400e-003**	**2.3400e-003**		**2.3400e-003**	**2.3400e-003**	**0.0000**	**3.4469**	**3.4469**	**3.6000e-004**	**0.0000**	**3.4545**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	6.8000e-004	7.1300e-003	2.0000e-005	1.6300e-003	1.0000e-005	1.6400e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.4126	1.4126	7.0000e-005	0.0000	1.4140
Total	**4.6000e-004**	**6.8000e-004**	**7.1300e-003**	**2.0000e-005**	**1.6300e-003**	**1.0000e-005**	**1.6400e-003**	**4.3000e-004**	**1.0000e-005**	**4.4000e-004**	**0.0000**	**1.4126**	**1.4126**	**7.0000e-005**	**0.0000**	**1.4140**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2521					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9400e-003	0.0130	0.0121	2.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004	0.0000	1.6596	1.6596	1.6000e-004	0.0000	1.6629
Total	**0.2540**	**0.0130**	**0.0121**	**2.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.8000e-004**	**9.8000e-004**	**0.0000**	**1.6596**	**1.6596**	**1.6000e-004**	**0.0000**	**1.6629**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	3.0000e-004	3.1400e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6546	0.6546	3.0000e-005	0.0000	0.6553
Total	**2.0000e-004**	**3.0000e-004**	**3.1400e-003**	**1.0000e-005**	**7.8000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6546**	**0.6546**	**3.0000e-005**	**0.0000**	**0.6553**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2521					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9400e-003	0.0130	0.0121	2.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004	0.0000	1.6596	1.6596	1.6000e-004	0.0000	1.6629
Total	**0.2540**	**0.0130**	**0.0121**	**2.0000e-005**		**9.8000e-004**	**9.8000e-004**		**9.8000e-004**	**9.8000e-004**	**0.0000**	**1.6596**	**1.6596**	**1.6000e-004**	**0.0000**	**1.6629**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	3.0000e-004	3.1400e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6546	0.6546	3.0000e-005	0.0000	0.6553
Total	**2.0000e-004**	**3.0000e-004**	**3.1400e-003**	**1.0000e-005**	**7.8000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6546**	**0.6546**	**3.0000e-005**	**0.0000**	**0.6553**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1050	0.2765	1.2274	3.5500e-003	0.2588	3.8600e-003	0.2627	0.0692	3.5600e-003	0.0727	0.0000	262.4146	262.4146	9.8700e-003	0.0000	262.6219
Unmitigated	0.1050	0.2765	1.2274	3.5500e-003	0.2588	3.8600e-003	0.2627	0.0692	3.5600e-003	0.0727	0.0000	262.4146	262.4146	9.8700e-003	0.0000	262.6219

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	204.82	211.19	168.07	685,071	685,071
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	204.82	211.19	168.07	685,071	685,071

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510011	0.056836	0.192178	0.151564	0.041643	0.005905	0.015642	0.015146	0.001440	0.002149	0.004721	0.000504	0.002262

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	157.8505	157.8505	7.2600e-003	1.5000e-003	158.4682
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	157.8505	157.8505	7.2600e-003	1.5000e-003	158.4682
NaturalGas Mitigated	4.1800e-003	0.0357	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.3801	41.3801	7.9000e-004	7.6000e-004	41.6319
NaturalGas Unmitigated	4.1800e-003	0.0357	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.3801	41.3801	7.9000e-004	7.6000e-004	41.6319

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse High Rise	775433	4.1800e-003	0.0357	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.3801	41.3801	7.9000e-004	7.6000e-004	41.6319
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.1800e-003**	**0.0357**	**0.0152**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.3801**	**41.3801**	**7.9000e-004**	**7.6000e-004**	**41.6319**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse High Rise	775433	4.1800e-003	0.0357	0.0152	2.3000e-004		2.8900e-003	2.8900e-003		2.8900e-003	2.8900e-003	0.0000	41.3801	41.3801	7.9000e-004	7.6000e-004	41.6319
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.1800e-003**	**0.0357**	**0.0152**	**2.3000e-004**		**2.8900e-003**	**2.8900e-003**		**2.8900e-003**	**2.8900e-003**	**0.0000**	**41.3801**	**41.3801**	**7.9000e-004**	**7.6000e-004**	**41.6319**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	211907	60.6407	2.7900e-003	5.8000e-004	60.8781
Enclosed Parking with Elevator	339696	97.2098	4.4700e-003	9.2000e-004	97.5902
Total		**157.8505**	**7.2600e-003**	**1.5000e-003**	**158.4682**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	211907	60.6407	2.7900e-003	5.8000e-004	60.8781
Enclosed Parking with Elevator	339696	97.2098	4.4700e-003	9.2000e-004	97.5902
Total		**157.8505**	**7.2600e-003**	**1.5000e-003**	**158.4682**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6131	9.9900e-003	0.8184	5.2000e-004		0.0496	0.0496		0.0496	0.0496	5.2047	10.8303	16.0350	0.0164	3.5000e-004	16.4878
Unmitigated	0.6131	9.9900e-003	0.8184	5.2000e-004		0.0496	0.0496		0.0496	0.0496	5.2047	10.8303	16.0350	0.0164	3.5000e-004	16.4878

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0776					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3592					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1605	4.0700e-003	0.3079	4.9000e-004		0.0468	0.0468		0.0468	0.0468	5.2047	10.0017	15.2065	0.0155	3.5000e-004	15.6419
Landscaping	0.0158	5.9200e-003	0.5105	3.0000e-005		2.7800e-003	2.7800e-003		2.7800e-003	2.7800e-003	0.0000	0.8286	0.8286	8.3000e-004	0.0000	0.8459
Total	**0.6131**	**9.9900e-003**	**0.8184**	**5.2000e-004**		**0.0496**	**0.0496**		**0.0496**	**0.0496**	**5.2047**	**10.8303**	**16.0350**	**0.0164**	**3.5000e-004**	**16.4878**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0776					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3592					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1605	4.0700e-003	0.3079	4.9000e-004		0.0468	0.0468		0.0468	0.0468	5.2047	10.0017	15.2065	0.0155	3.5000e-004	15.6419
Landscaping	0.0158	5.9200e-003	0.5105	3.0000e-005		2.7800e-003	2.7800e-003		2.7800e-003	2.7800e-003	0.0000	0.8286	0.8286	8.3000e-004	0.0000	0.8459
Total	**0.6131**	**9.9900e-003**	**0.8184**	**5.2000e-004**		**0.0496**	**0.0496**		**0.0496**	**0.0496**	**5.2047**	**10.8303**	**16.0350**	**0.0164**	**3.5000e-004**	**16.4878**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.3078	0.1049	2.6300e-003	22.3239
Unmitigated	19.3078	0.1049	2.6300e-003	22.3255

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	3.19255 / 2.01269	19.3078	0.1049	2.6300e-003	22.3255
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.3078**	**0.1049**	**2.6300e-003**	**22.3255**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	3.19255 / 2.01269	19.3078	0.1049	2.6300e-003	22.3239
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**19.3078**	**0.1049**	**2.6300e-003**	**22.3239**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.5754	0.2704	0.0000	10.2538
Unmitigated	4.5754	0.2704	0.0000	10.2538

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	22.54	4.5754	0.2704	0.0000	10.2538
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**4.5754**	**0.2704**	**0.0000**	**10.2538**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	22.54	4.5754	0.2704	0.0000	10.2538
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**4.5754**	**0.2704**	**0.0000**	**10.2538**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Newport Center Villas

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Automobile Care Center	8.50	1000sqft	0.20	8,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Off-road Equipment - No construction needed.

Vehicle Trips - Derived from Land Use parameters and Table 3 of "Newport Center Villas Traffic and Parking Evaluation"

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	62.00	96.35
tblVehicleTrips	SU_TR	62.00	96.35
tblVehicleTrips	WD_TR	62.00	96.35

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	6.7300e-003	0.0565	0.0462	7.0000e-005	5.5000e-004	4.0200e-003	4.5700e-003	1.5000e-004	3.8400e-003	3.9900e-003	0.0000	5.9089	5.9089	1.1100e-003	0.0000	5.9321
Total	**6.7300e-003**	**0.0565**	**0.0462**	**7.0000e-005**	**5.5000e-004**	**4.0200e-003**	**4.5700e-003**	**1.5000e-004**	**3.8400e-003**	**3.9900e-003**	**0.0000**	**5.9089**	**5.9089**	**1.1100e-003**	**0.0000**	**5.9321**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	6.7300e-003	0.0565	0.0462	7.0000e-005	5.5000e-004	4.0200e-003	4.5700e-003	1.5000e-004	3.8400e-003	3.9900e-003	0.0000	5.9089	5.9089	1.1100e-003	0.0000	5.9321
Total	**6.7300e-003**	**0.0565**	**0.0462**	**7.0000e-005**	**5.5000e-004**	**4.0200e-003**	**4.5700e-003**	**1.5000e-004**	**3.8400e-003**	**3.9900e-003**	**0.0000**	**5.9089**	**5.9089**	**1.1100e-003**	**0.0000**	**5.9321**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0406	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Energy	9.9000e-004	9.0200e-003	7.5700e-003	5.0000e-005		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	32.2913	32.2913	1.2200e-003	3.9000e-004	32.4390
Mobile	0.3462	0.5408	2.6980	5.9000e-003	0.4144	6.8600e-003	0.4213	0.1107	6.3300e-003	0.1171	0.0000	436.3342	436.3342	0.0177	0.0000	436.7066
Waste						0.0000	0.0000		0.0000	0.0000	6.5911	0.0000	6.5911	0.3895	0.0000	14.7711
Water						0.0000	0.0000		0.0000	0.0000	0.2537	4.5381	4.7918	0.0263	6.6000e-004	5.5475
Total	**0.3877**	**0.5498**	**2.7057**	**5.9500e-003**	**0.4144**	**7.5500e-003**	**0.4220**	**0.1107**	**7.0200e-003**	**0.1178**	**6.8448**	**473.1638**	**480.0086**	**0.4347**	**1.0500e-003**	**489.4644**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0406	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Energy	9.9000e-004	9.0200e-003	7.5700e-003	5.0000e-005		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	32.2913	32.2913	1.2200e-003	3.9000e-004	32.4390
Mobile	0.3462	0.5408	2.6980	5.9000e-003	0.4144	6.8600e-003	0.4213	0.1107	6.3300e-003	0.1171	0.0000	436.3342	436.3342	0.0177	0.0000	436.7066
Waste						0.0000	0.0000		0.0000	0.0000	6.5911	0.0000	6.5911	0.3895	0.0000	14.7711
Water						0.0000	0.0000		0.0000	0.0000	0.2537	4.5381	4.7918	0.0263	6.6000e-004	5.5471
Total	**0.3877**	**0.5498**	**2.7057**	**5.9500e-003**	**0.4144**	**7.5500e-003**	**0.4220**	**0.1107**	**7.0200e-003**	**0.1178**	**6.8448**	**473.1638**	**480.0086**	**0.4347**	**1.0500e-003**	**489.4640**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/14/2016	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005		4.0200e-003	4.0200e-003		3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
Total	**6.5600e-003**	**0.0562**	**0.0435**	**6.0000e-005**		**4.0200e-003**	**4.0200e-003**		**3.8400e-003**	**3.8400e-003**	**0.0000**	**5.4141**	**5.4141**	**1.0800e-003**	**0.0000**	**5.4369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	2.5000e-004	2.6400e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4948	0.4948	2.0000e-005	0.0000	0.4953
Total	**1.7000e-004**	**2.5000e-004**	**2.6400e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4948**	**0.4948**	**2.0000e-005**	**0.0000**	**0.4953**

3.2 Demolition - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.5600e-003	0.0562	0.0435	6.0000e-005		4.0200e-003	4.0200e-003		3.8400e-003	3.8400e-003	0.0000	5.4141	5.4141	1.0800e-003	0.0000	5.4369
Total	**6.5600e-003**	**0.0562**	**0.0435**	**6.0000e-005**		**4.0200e-003**	**4.0200e-003**		**3.8400e-003**	**3.8400e-003**	**0.0000**	**5.4141**	**5.4141**	**1.0800e-003**	**0.0000**	**5.4369**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	2.5000e-004	2.6400e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4948	0.4948	2.0000e-005	0.0000	0.4953
Total	**1.7000e-004**	**2.5000e-004**	**2.6400e-003**	**1.0000e-005**	**5.5000e-004**	**0.0000**	**5.5000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4948**	**0.4948**	**2.0000e-005**	**0.0000**	**0.4953**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3462	0.5408	2.6980	5.9000e-003	0.4144	6.8600e-003	0.4213	0.1107	6.3300e-003	0.1171	0.0000	436.3342	436.3342	0.0177	0.0000	436.7066
Unmitigated	0.3462	0.5408	2.6980	5.9000e-003	0.4144	6.8600e-003	0.4213	0.1107	6.3300e-003	0.1171	0.0000	436.3342	436.3342	0.0177	0.0000	436.7066

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	818.98	818.98	818.98	1,097,059	1,097,059
Total	818.98	818.98	818.98	1,097,059	1,097,059

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510011	0.056836	0.192178	0.151564	0.041643	0.005905	0.015642	0.015146	0.001440	0.002149	0.004721	0.000504	0.002262

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.4756	22.4756	1.0300e-003	2.1000e-004	22.5635
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.4756	22.4756	1.0300e-003	2.1000e-004	22.5635
NaturalGas Mitigated	9.9000e-004	9.0200e-003	7.5700e-003	5.0000e-005		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	9.8157	9.8157	1.9000e-004	1.8000e-004	9.8755
NaturalGas Unmitigated	9.9000e-004	9.0200e-003	7.5700e-003	5.0000e-005		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	9.8157	9.8157	1.9000e-004	1.8000e-004	9.8755

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	183940	9.9000e-004	9.0200e-003	7.5700e-003	5.0000e-005		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	9.8157	9.8157	1.9000e-004	1.8000e-004	9.8755
Total		**9.9000e-004**	**9.0200e-003**	**7.5700e-003**	**5.0000e-005**		**6.9000e-004**	**6.9000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**9.8157**	**9.8157**	**1.9000e-004**	**1.8000e-004**	**9.8755**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	183940	9.9000e-004	9.0200e-003	7.5700e-003	5.0000e-005		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	9.8157	9.8157	1.9000e-004	1.8000e-004	9.8755
Total		**9.9000e-004**	**9.0200e-003**	**7.5700e-003**	**5.0000e-005**		**6.9000e-004**	**6.9000e-004**		**6.9000e-004**	**6.9000e-004**	**0.0000**	**9.8157**	**9.8157**	**1.9000e-004**	**1.8000e-004**	**9.8755**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	78540	22.4756	1.0300e-003	2.1000e-004	22.5635
Total		**22.4756**	**1.0300e-003**	**2.1000e-004**	**22.5635**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	78540	22.4756	1.0300e-003	2.1000e-004	22.5635
Total		**22.4756**	**1.0300e-003**	**2.1000e-004**	**22.5635**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0406	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Unmitigated	0.0406	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.8500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0307					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Total	**0.0406**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.1000e-004**	**2.1000e-004**	**0.0000**	**0.0000**	**2.2000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Consumer Products	0.0307					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.1000e-004	2.1000e-004	0.0000	0.0000	2.2000e-004
Architectural Coating	9.8500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0406**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.1000e-004**	**2.1000e-004**	**0.0000**	**0.0000**	**2.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.7918	0.0263	6.6000e-004	5.5471
Unmitigated	4.7918	0.0263	6.6000e-004	5.5475

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.799689 / 0.490132	4.7918	0.0263	6.6000e-004	5.5475
Total		**4.7918**	**0.0263**	**6.6000e-004**	**5.5475**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.799689 / 0.490132	4.7918	0.0263	6.6000e-004	5.5471
Total		**4.7918**	**0.0263**	**6.6000e-004**	**5.5471**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	6.5911	0.3895	0.0000	14.7711
Mitigated	6.5911	0.3895	0.0000	14.7711

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	32.47	6.5911	0.3895	0.0000	14.7711
Total		**6.5911**	**0.3895**	**0.0000**	**14.7711**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	32.47	6.5911	0.3895	0.0000	14.7711
Total		**6.5911**	**0.3895**	**0.0000**	**14.7711**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

PRELIMINARY
WATER QUALITY MANAGEMENT PLAN (WQMP)

Newport Center Condominiums

City of Newport Beach, California

Prepared For

NEWPORT CENTER ANACAPA ASSOCIATES, LLC
2804 Lafayette Ave
Newport Beach, CA 92660
(949) 723-5854

Prepared By

Fuscoe Engineering, Inc.
16795 Von Karman, Suite 100
Irvine, California 92606
949.474.1960
www.fuscoe.com

Project Manager:
Oriana Slasor, P.E.

Date Prepared: February 26, 2015
Date Revised: April 10, 2015
Job Number: 1317.001.01

full circle thinking®

PRELIMINARY WATER QUALITY MANAGEMENT PLAN (WQMP)

NEWPORT CENTER CONDOMINIUMS

April 10, 2015

1317.001.01

PRELIMINARY WATER QUALITY MANAGEMENT PLAN (WQMP)

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PRELIMINARY WATER QUALITY MANAGEMENT PLAN (WQMP)

NEWPORT CENTER CONDOMINIUMS

April 10, 2015

1317.001.01

PRELIMINARY
WATER QUALITY MANAGEMENT PLAN (WQMP)

NEWPORT CENTER CONDOMINIUMS

City of Newport Beach, County of Orange

150 NEWPORT CENTER DRIVE
NEWPORT BEACH, CA 92660

PLAN CHECK NO. PA2014-213
PARCEL 1 P.M.B. 29/34
APN: 442-231-12

Prepared for:

NEWPORT CENTER ANACAPA ASSOCIATES, LLC
2804 Lafayette Ave
Newport Beach, CA 92660
(949) 723-5854

Prepared by:

FUSCOE ENGINEERING, INC.
16795 Von Karman, Suite 100
Irvine, CA 92618
949.474.1960
Oriana Slasor, PE

Date Prepared: February 26, 2015
Date Revised: April 10, 2015

PROJECT OWNER'S CERTIFICATION			
Permit/Application No.:	PA2014-213	**Grading Permit No.:**	PENDING
Tract/Parcel Map and Lot(s)No.:	PARCEL 1 P.M.B. 29/34	**Building Permit No.:**	PENDING
Address of Project Site and APN:	150 Newport Center Drive, Newport Beach, CA 92660 APN 442-231-12		

This Water Quality Management Plan (WQMP) has been prepared for Newport Center ANACAPA ASSOCIATES, LLC by FUSCOE ENGINEERING, INC. The WQMP is intended to comply with the requirements of the County of Orange NPDES Storm water Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan , including the ongoing operation and maintenance of all best management practices (BMPs), and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

OWNER:	Newport Center Anacapa Associates, LLC
Name:	Tod Ridgeway
Title:	
Company:	Ridgeway Development Company
Address:	2804 Lafayette Ave, Newport Beach, CA 92660
Email:	tridgeway@sbcglobal.net
Telephone:	(949) 723-5854
Signature:	**Date:**

TABLE OF CONTENTS

APPENDICES

EXHIBITS & BMP DETAILS (INCLUDED IN SECTION VI)

- Vicinity Map
- Preliminary WQMP Exhibit
- Conceptual Grading Plans (3 Sheets, 11"x17" reduced scale)
- Modular Wetland Details

EDUCATIONAL MATERIALS (INCLUDED IN APPENDIX C)

- The Ocean Begins at Your Front Door
- Household Tips
- Proper Disposal of Household Hazardous Waste
- Recycle at Your Local Used Oil Collection Center (Central County)
- Responsible Pest Control
- Tips for Landscaping and Gardening
- Tips for Pet Care
- Tips for Pool Maintenance
- Tips for Residential Pool, Landscape and Hardscape Drains
- DF-1 Drainage System Operation & Maintenance
- R-4 Home & Garden Care Activities
- R-5 Disposal of Pet Waste
- R-6 Disposal of Green Waste
- R-7 Household Hazardous Waste
- R-8 Water Conservation
- SD-10 Site Design & Landscape Planning
- SD-11 Roof Runoff Controls
- SD-12 Efficient Irrigation
- SD-13 Storm Drain Signage

SECTION I DISCRETIONARY PERMITS AND WATER QUALITY CONDITIONS

PROJECT INFORMATION			
Permit/Application No.:	PA2014-213	**Tract/Parcel Map No.:**	PARCEL 1 P.M.B. 29/34
Address of Project Site and APN:	150 Newport Center Drive, Newport Beach, CA APN 442-231-12		
WATER QUALITY CONDITIONS			
Discretionary Permit(s):	Pending issuance, to be provided upon issuance by the City of Newport Beach.		
Water Quality Conditions:	<u>City of Newport Beach Standard Condition:</u> ▪ The City of Newport Beach requires all new development and significant redevelopment projects to prepare and submit a Water Quality Management Plan (WQMP) to the City for review and approval. Prior to issuance of grading or building permits, the project applicant shall have an approved final Project WQMP. ▪ Prior to the issuance of the grading permit, the applicant shall prepare a Water Quality Management Plan (WQMP) specifically identifying the Best Management Practices (BMP's) that will be used on site to control predictable pollutant runoff. The plan shall identify the types of structural and non-structural measures to be used. The plan shall comply with the Orange County Drainage Area Management Plan (DAMP). Particular attention should be addressed to the appendix section "Best Management Practices for New Development." The WQMP shall clearly show the locations of structural BMP's, and assignment of long term maintenance responsibilities (which shall also be included in the Maintenance Agreement). The plan shall be prepared to the format of the DAMP title "Water Quality Management Plan Outline" and be subject to the approval of the City.		
WATERSHED-BASED PLAN CONDITIONS			
Applicable conditions from watershed - based plans including WIHMPs and TMDLs:	Lower Newport Bay: ▪ Metals ▪ Nutrients ▪ Pathogens ▪ Pesticides ▪ Priority Organics ▪ Siltation		

SECTION II PROJECT DESCRIPTION

II.1 PROJECT DESCRIPTION

The proposed Newport Center Condominiums project site encompasses approximately 1.26 acres at 150 Newport Center Drive in the City of Newport Beach. The project site is bounded by Newport Center Drive to the north, by Anacapa Drive to the east, and by existing office buildings and asphalt parking lots to the south and west. A Vicinity Map is included in Section VI.

Under existing conditions, the project site is fully developed and serves as an active car wash/service building with asphalt paved parking lots surrounding the building. Adjacent land uses include commercial and office uses as part of the larger Fashion Island Center.

The table below summarizes the proposed project.

DESCRIPTION OF PROPOSED PROJECT				
WQMP Development Category:	Category 8. All significant redevelopment projects, where significant redevelopment is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Since the proposed project includes the replacement of more than 5,000 square feet of impervious surfaces on an already developed site, the project is considered a "Priority Project" in accordance with the Model WQMP and OC DAMP.			
Project Area (ft^2):	54,885.6 ft^2 (1.26 acres)			
# of Dwelling Units:	49			
SIC Code:	6531 Real Estate Managers (HOA)			
Narrative Project Description:	The proposed condominium development will consist of a large, three-story subterranean parking garage with an overlying seven-story residential condominium buildings above the parking garage. Other proposed amenities include a leasing office, fitness center, a pool, a lounge, a meeting room, a mail room and a club room.			
Project Area:	**Pervious Area**	**Pervious Area Percentage**	**Impervious Area**	**Impervious Area Percentage**
Pre-Project Conditions:	0.25 ac	20%	1.0 ac	80%
Post-Project Conditions:	0.19 ac	15%	1.07 ac	85%

DESCRIPTION OF PROPOSED PROJECT	
Drainage Patterns/ Connections:	Under existing conditions, storm water runoff generally sheets flows towards the south-southwest portion of the site and ties into an existing 10" storm drain. Under the proposed conditions, an area drain will be installed along the north, east and south perimeter of the site and tie into the existing 10" storm drain. Storm water flows will ultimately discharge to the Lower Newport Bay.

PROJECT FEATURES		
Building Summary:	The proposed project includes 2-3 bedroom condominiums throughout the seven story building. The proposed parking structure will feature three below-ground levels of parking to accommodate the condominiums. Entrance to the parking garage will be from the south of the building to the upper garage level.	
Amenities:	Proposed amenities include a rooftop pool, spa, fitness center, and club room on Level 7 of the proposed building, and a lounge located on Level 1 of the building adjacent to the lobby/reception area. The table below summarizes the proposed amenities. Common area landscaping will be provided surrounding the building, and an artificial turf dog park area will be located on the northwestern corner of the property.	
	Amenity	Area (SF)
	Fitness Center	1,411
	Pool Deck	3,501
	Club Room	1,411
	Lounge	1,478
Landscaped Areas:	Landscaping will be provided around the perimeter of the structure. The landscape will include shrubs, trees, hedges, turf, and succulents. Planter areas immediately adjacent to structures should be avoided (NMG, 2012). Approximately 15% of the site will be landscaped.	
Parking Facilities:	Parking will be provided on-site in subterranean garage below the building. The proposed parking facilities include 98 residential stalls and 25 visitor stalls totaling to 123 stalls.	
Other Project Features:	Trash will be managed indoors within the parking structure. No outdoor storage areas are proposed. The site will not have any outdoor storage areas, loading docks, vehicle/community car wash racks or equipment wash areas. The proposed project will not include restaurant uses/food preparation areas.	
Outdoor Activities:	Outdoor activities are anticipated with passive recreational uses in the common landscapes areas surrounding the building, as well as within the pool recreation area. All vehicular parking will be located indoors within the subterranean parking structure.	

PROJECT FEATURES	
Materials Stored:	No outdoor storage materials is anticipated (materials will be stored indoors). Materials anticipated to be stored on-site include those associated with residential developments (i.e. cleaning products, pool maintenance equipment, storage, etc.); however, no hazardous wastes will be stored on-site. Pool maintenance equipment will be stored indoors within designated storage areas.
Wastes Generated:	The project is not anticipated to generate any wastes other than landscape clippings, typical trash, debris and refuse from the residents. Outdoor trash receptacles will be provided throughout the common areas of the site for the residents to dispose of their refuse in a proper manner, and maintenance crews will provide back up trash and waste material removal to maintain a trash-free property. All wastes shall be collected and properly disposed of off-site.

II.2 POTENTIAL STORM WATER POLLUTANTS

The table below, derived from Table 2 of the Countywide Model WQMP Technical Guidance Document (May 2011), summarizes the categories of land use or project features of concern and the general pollutant categories associated with them.

ANTICIPATED & POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE								
Priority Project Categories and/or Project Features	General Pollutant Categories							
	Suspended Solid/ Sediments	Nutrients	Heavy Metals	Pathogens (Bacteria/ Virus)	Pesticides	Oil & Grease	Toxic Organic Compounds	Trash & Debris
Detached Residential Development	E	E	N	E	E	E	N	E
Attached Residential Development	E	E	N	E	E	E[2]	N	E
Commercial/Industrial Development	E[1]	E[1]	E[5]	E[3]	E[1]	E	E	E
Automotive Repair Shops	N	N	E	N	N	E	E	E
Restaurants	E[1][2]	E[1]	E[2]	E	E[1]	E	N	E
Hillside Development >5,000 ft^2	E	E	N	E	E	E	N	E
Parking Lots	E	E[1]	E	E[4]	E[1]	E	E	E
Streets, Highways, & Freeways	E	E[1]	E	E[4]	E[1]	E	E	E
Retail Gasoline Outlets	N	N	E	N	N	E	E	E

ANTICIPATED & POTENTIAL POLLUTANTS GENERATED BY LAND USE TYPE								
Priority Project Categories and/or Project Features	General Pollutant Categories							
	Suspended Solid/ Sediments	Nutrients	Heavy Metals	Pathogens (Bacteria/ Virus)	Pesticides	Oil & Grease	Toxic Organic Compounds	Trash & Debris

Notes:
E = expected to be of concern N = not expected to be of concern
(1) Expected pollutant if landscaping exists on-site, otherwise not expected.
(2) Expected pollutant if the project includes uncovered parking areas, otherwise not expected.
(3) Expected pollutant if land use involves food or animal waste products, otherwise not expected.
(4) Bacterial indicators are routinely detected in pavement runoff.
(5) Expected if outdoor storage or metal roofs, otherwise not expected.
Source: County of Orange. (2011, May 19). Technical Guidance Document for the Preparation of Conceptual/ Preliminary and/or Project Water Quality Management Plans (WQMPs). Table 2.1.

Priority Project Categories and/or Features: Attached residential units

POLLUTANTS OF CONCERN		
Pollutant	E = Expected to be of concern N =Not Expected to be of concern	Additional Information and Comments
Suspended Solid/ Sediment	E	303(d) listed impairment / TMDL
Nutrients	E	303(d) listed impairment / TMDL
Heavy Metals	N	303(d) listed impairment / TMDL
Pathogens (Bacteria/Virus)	E	303(d) listed impairment / TMDL
Pesticides	E	303(d) listed impairment / TMDL
Oil & Grease	E(2)	
Toxic Organic Compounds	N	
Trash & Debris	E	

II.3 HYDROLOGIC CONDITIONS OF CONCERN

The purpose of this section is to identify any hydrologic conditions of concern (HCOC) with respect to downstream flooding, erosion potential of natural channels downstream, impacts of increased flows on natural habitat, etc. As specified in Section 2.3.3 of the 2011 Model WQMP, projects must identify and mitigate any HCOCs. A HCOC is a combination of upland hydrologic conditions and stream

biological and physical conditions that presents a condition of concern for physical and/or biological degradation of streams.

In the North Orange County permit area, HCOCs are considered to exist if any streams located downstream from the project are determined to be potentially susceptible to hydromodification impacts and either of the following conditions exists:

- Post-development runoff volume for the 2-yr, 24-hr storm exceeds the pre-development runoff volume for the 2-yr, 24-hr storm by more than 5 percent

or

- Time of concentration (Tc) of post-development runoff for the 2-yr, 24-hr storm event exceeds the time of concentration of the pre-development condition for the 2-yr, 24-hr storm event by more than 5 percent.

If these conditions do not exist or streams are not potentially susceptible to hydromodification impacts, an HCOC does not exist and hydromodification does not need to be considered further. In the North Orange County permit area, downstream channels are considered not susceptible to hydromodification, and therefore do not have the potential for a HCOC, if all downstream conveyance channels that will receive runoff from the project are engineered, hardened, and regularly maintained to ensure design flow capacity, and no sensitive habitat areas will be affected.

Is the proposed project potentially susceptible to hydromodification impacts?

☐ **Yes** ☒ **No (show map)**

According to Figure XVI-3b of the Model WQMP Technical Guidance Document (May 2011), the project site is **not** located in an area susceptible to hydromodification impacts. Therefore, the project does not have the potential for a HCOC. A copy of Figure XVI-3b is included in Appendix A.

II.4 POST DEVELOPMENT DRAINAGE CHARACTERISTICS

Under the proposed conditions, runoff will continue to drain towards the southwest portion of the site where a new area storm drain section will be constructed on the south, east and northern sections of the site. The new storm drain lines will tie into the existing 10" storm drain and catch basin at the southwest most end of the site. The storm drain system then discharges into the City MS4 along Civic Center Drive towards Pacific Coast Highway, where it is then conveyed west to the Lower Newport Bay where it is ultimately discharged.

II.5 PROPERTY OWNERSHIP/MANAGEMENT

PROPERTY OWNERSHIP/MANAGEMENT	
Public Streets:	City of Newport Beach
Private Streets:	None proposed.

PROPERTY OWNERSHIP/MANAGEMENT	
Landscaped Areas:	Newport Center Anacapa Associates, LLC/HOA
Open Space:	None proposed.
Amenities:	Newport Center Anacapa Associates, LLC/HOA
Easements:	City of Newport Beach
Parks:	None proposed.
Buildings:	Newport Center Anacapa Associates, LLC/HOA
Structural BMPs:	Newport Center Anacapa Associates, LLC/HOA

A Home Owners Association (HOA) will be formed upon project completion. The HOA will be responsible for inspecting and maintaining all BMPs prescribed for Newport Center Condominiums. Until a HOA is formally established, Newport Center Anacapa Associates, LLC shall assume all BMP maintenance and inspection responsibilities for the proposed project. Inspection and maintenance responsibilities are outlined in Section V of this report.

SECTION III SITE DESCRIPTION

III.1 PHYSICAL SETTING

Planning Area/ Community Name:	Newport Center Condominiums Fashion Island
Address:	150 Newport Center Drive, Newport Beach, CA
Project Area Description:	The project site is bounded by Newport Center Drive to the north, by Anacapa Drive to the east, and by existing office buildings and asphalt parking lots to the south and west.
Land Use:	Mixed Use MU-H3
Zoning:	Planned Community PC-56 South Newport Center
Acreage:	1.26 acres
Predominant Soil Type:	B
Impervious Conditions:	Existing Impervious: 80% (20% Pervious) Proposed Impervious: 85% (15% Pervious)

III.2 SITE CHARACTERISTICS

Precipitation Zone:	0.7 inches per Figure XVI-1 (see Appendix A)
Topography:	The project site is currently an active car wash/service building surrounded by paved parking. The site is generally flat and drains towards an existing low point at the southwest portion of the site. Elevations vary from low of 158.5 feet above mean sea level (msl) in the south-southwest corner to a high elevation of 170.5 feet above msl in the northeast corner.
Existing Drainage Patterns/ Connections:	Under existing conditions, storm water runoff generally sheets flows towards the south-southwest where an existing 10" storm line and catch basin intercepts the drainage.
Proposed Drainage Patterns/ Connections:	Under the proposed conditions, an area drain will be installed along the north, east and south perimeter of the site and tie into the existing 10" storm drain at the southwest region of the site. Storm water flows will ultimately discharge to the Lower Newport Bay.

Soil Type, Geology, and Infiltration Properties:	A site-specific geotechnical study has not yet been conducted for the project site. However, a geotechnical review was performed for the site in 2015 by NMG Geotechnical, Inc. (NMG). The site is generally underlain by Quaternary-age marine terrace deposits overlying Miocene-age bedrock of the Monterey Formation. There is 9 to14+ feet of existing artificial fill across the site. The fill materials were found to consist of brown to dark brown and reddish brown sand, silty sand, and clayey sand that was generally damp to moist and medium dense. Gray to dark gray clay and sandy clays were also encountered and were found to be damp and moist and stiff to very stiff. The materials below the artificial fill were described as dark brown silty sand with undisturbed grass. See Appendix F for additional information.
Hydrogeologic (Groundwater) Conditions:	The project site is located in an area where the groundwater table/seepage was not found to depths of 41 feet (NMG, 2012). However, perched groundwater and seepage have been found along the terrace-bedrock at many sites in and around Newport Center.
Geotechnical Conditions (relevant to infiltration):	Although a site-specific geotechnical study has not yet been conducted for the project site, the geotechnical engineer reviewed the proposed site plan to evaluate overall feasibility for the Project and identify any potential geotechnical hazards or concerns based on previous studies conducted on neighboring sites. For the purposes of this Preliminary WQMP, this information was utilized to evaluate the potential for infiltrating runoff within the project boundary in accordance with the 2011 Model WQMP and Technical Guidance Document (TGD). The excavation for the proposed subterranean parking structure is estimated to range from approximately 30-40 feet below the proposed final ground surface. Although perched groundwater was not found at the northern portion of project site at depths up to 41-45 feet during past investigations, much of the surrounding Newport Center area has been found to have groundwater seepage and wet soils (NMG, 2012). Per the Model WQMP and TGD, infiltration BMPs are required to maintain a minimum separation of 10 ft from the bottom of the facility and to be placed at least 10-15 ft away from the building to avoid conflicts with the structure's foundation. In this case, such requirements would extend the infiltration BMPs beyond the scope of the geotechnical study where the possibility of encountering perched groundwater could not be ruled out. Thus, due to the geotechnical conditions on-site, the excavated depth of the proposed building structure, and the anticipated presence of perched groundwater between the marine terrace deposits and bedrock, infiltration of runoff on-site is considered infeasible in accordance with the Model WQMP and TGD. These conclusions will be verified by a site-specific geotechnical study and documented in the Final WQMP. Refer to Section IV.3.2 for further discussion on infiltration feasibility, and Appendix F for supporting documentation available at this preliminary stage of the project.

Off-Site Drainage:	The project site does not receive off-site runon.
Utility and Infrastructure Information:	Dry and wet utilities will be incorporated into the proposed project and will tie into larger existing facilities within the existing development.

III.3 WATERSHED DESCRIPTION

Receiving Waters:	Lower Newport Bay
303(d) Listed Impairments:	Lower Newport Bay: ▪ Chlordane ▪ Copper ▪ DDT ▪ Indicator Bacteria ▪ Nutrients ▪ PCBs ▪ Pesticides ▪ Sediment Toxicity
Applicable TMDLs:	Lower Newport Bay: ▪ Metals ▪ Nutrients ▪ Pathogens ▪ Pesticides ▪ Priority Organics ▪ Siltation
Pollutants of Concern for the Project:	Per Section II.2: ▪ Suspended Solids/Sediment ▪ Nutrients ▪ Pathogens (Bacteria/Virus) ▪ Pesticides ▪ Trash & Debris
Hydrologic Conditions of Concern (HCOCs):	None. Refer to Section II.3 for details.
Environmentally Sensitive and Special Biological Significant Areas:	There are no Environmentally Sensitive Areas (ESAs) or Areas of Special Biological Significance (ASBS) within the project site or within the project's vicinity. The project is subject to CA Coastal Commission jurisdiction.

SECTION IV BEST MANAGEMENT PRACTICES (BMPs)

IV.1 PROJECT PERFORMANCE CRITERIA

Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis?

☐ Yes ☒ No

PROJECT PERFORMANCE CRITERIA	
Hydromodification Control Performance Criteria: (Model WQMP Section 7.II-2.4.2.2)	If a hydrologic condition of concern (HCOC) exists, priority projects shall implement onsite or regional hydromodification controls such that: ▪ Post-development runoff volume for the two-year frequency storm does not exceed that of the predevelopment condition by more than five percent, and ▪ Time of concentration of post-development runoff for the two-year storm event is not less than that for the predevelopment condition by more than five percent. Where the Project WQMP documents that excess runoff volume from the two-year runoff event cannot feasibly be retained and where in-stream controls cannot be used to otherwise mitigate HCOCs, the project shall implement on-site or regional hydromodification controls to: ▪ Retain the excess volume from the two-year runoff event to the MEP, and ▪ Implement on-site or regional hydromodification controls such that the post-development runoff two-year peak flow rate is no greater than 110 percent of the predevelopment runoff two-year peak flow rate.
LID Performance Criteria: (Model WQMP Section 7.II-2.4.3)	Infiltrate, harvest and use, evapotranspire, or biotreat/biofilter, the 85th percentile, 24-hour storm event (Design Capture Volume). LID BMPs must be designed to retain, on-site, (infiltrate, harvest and use, or evapotranspire) storm water runoff up to 80 percent average annual capture efficiency.
Treatment Control BMP Performance Criteria: (Model WQMP Section 7.II-3.2.2)	If it is not feasible to meet LID performance criteria through retention and/or biotreatment provided on-site or at a sub-regional/regional scale, then treatment control BMPs shall be provided on-site or offsite prior to discharge to waters of the US. Sizing of treatment control BMP(s) shall be based on either the unmet volume after claiming applicable water quality credits, if appropriate.

PROJECT PERFORMANCE CRITERIA	
LID Design Storm Capture Volume:	DCV = C × d × A × 43560 sf/ac × 1/12 in/ft Where: DCV = design storm capture volume, cu-ft C = runoff coefficient = (0.75 × imp + 0.15) Imp = impervious fraction of drainage area (ranges from 0 to 1) d = storm depth (inches) A = tributary area (acres) Imp = 85% d = 0.7 inches A = 1.26 acres *DCV* = *(0.75 x* 0.85*+0.15) x* 0.7 *inches x* 1.26 *ac x 43560 sf/ac x 1/12 in/ft* = 2,522 ft^3 *Refer to Section IV.2.2 for specific Drainage Manage Area (DMA) breakdown and Appendix A for detailed calculations (Worksheet B).*

IV.2 SITE DESIGN AND DRAINAGE PLAN

The following section describes the site design BMPs used in this project and the methods used to incorporate them. Careful consideration of site design is a critical first step in storm water pollution prevention from new developments and redevelopments.

IV.2.1 Site Design BMPs

Minimize Impervious Area

Impervious surfaces have been minimized by incorporating landscaped areas throughout the site including around the perimeter of the proposed structures. Runoff from the proposed development will drain to a landscaped proprietary bioretention area.

Maximize Natural Infiltration Capacity

Soil types and geotechnical constraints limit infiltration of runoff on-site. Refer to Section IV.3.2 for further details.

Preserve Existing Drainage Patterns and Time of Concentration

Proposed drainage patterns will largely mimic existing drainage patterns. Runoff will flow in a south/ southwest direction and connect to existing storm drain facilities. Low-flows and first flush runoff will drain through a proprietary biotreatment system prior to discharge.

Disconnect Impervious Areas

Runoff from the proposed improvements, buildings and hardscape areas will drain to bioretention systems to further disconnect impervious areas.

Protect Existing Vegetation and Sensitive Areas, and Revegetate Disturbed Areas

The project site is fully developed under existing conditions. All disturbed areas will either be paved or landscaped.

Xeriscape Landscaping

Native and/or tolerant landscaping will be incorporated into the site design consistent with City guidelines.

IV.2.2 Drainage Management Areas

In accordance with the MS4 permit and the 2011 Model WQMP, the project site has been divided into Drainage Management Areas (DMAs) to be utilized for defining drainage areas and sizing LID and other treatment control BMPs. DMAs have been delineated based on the proposed site grading patterns, drainage patterns, storm drain and catch basin locations.

The design capture volumes (DCV) and treatment flow rates (Q_{Design}) for each DMA are summarized in the table below. These have been derived utilizing the "Simple Method" in accordance with the TGD Section III.1.1. Actual BMP sizing requirements, including 80 percent capture design volumes, flow rates, depths, and other design details for the specific BMPs proposed are provided in Section IV.3.4 below. Locations of DMAs and associated LID and treatment BMPs are identified on the exhibits in Section VI. Additional calculations and TGD Worksheets are provided in Appendix A.

DRAINAGE MANAGEMENT AREAS (DMAs)								
DMA/ Drainage Area ID[1]	Tributary Drainage Area (ft^2)	Tributary Drainage Area (ac)	% Imp.	Design Storm Depth[2] (in)	Estimated Tc (min)	Rainfall Intensity[3] (in/hr)	Simple Method DCV[4] (ft^3)	Q_{Design} [5] (cfs)
DMA A	54,686	1.26	85%	0.7	5	0.26	2,522	0.258

Notes:

1. Refer to exhibits in Section VI for locations of each DMA.
2. Per Figure XVI-1 of the Technical Guidance Document, dated May 19, 2011. See also Appendix A.
3. Per Figure III.4 of the Technical Guidance Document, dated May 19, 2011. See also Appendix A.
4. Per Section III.1.1 of the Technical Guidance Document.
5. Per Section III.3.3 and Worksheet D of the Technical Guidance Document.

IV.3 LID BMP SELECTION AND PROJECT CONFORMANCE ANALYSIS

Low Impact Development (LID) BMPs are required in addition to site design measures and source controls to reduce pollutants in storm water discharges. LID BMPs are engineered facilities that are designed to retain or biotreat runoff on the project site. The 4th Term MS4 Storm Water Permit (Order R8-2009-0030) requires the evaluation and use of LID features using the following hierarchy of treatment: infiltration, evapotranspiration, harvest/reuse, and biotreatment. The following sections summarize the LID BMPs proposed for the project in accordance with the permit hierarchy and performance criteria outlined in Section IV.1.

IV.3.1 Hydrologic Source Controls (HSCs)

Hydrologic source controls (HSCs) can be considered to be a hybrid between site design practices and LID BMPs. HSCs are distinguished from site design BMPs in that they do not reduce the tributary area or reduce the imperviousness of a drainage area; rather they reduce the runoff volume that would result from a drainage area with a given imperviousness compared to what would result if HSCs were not used.

HYDROLOGIC SOURCE CONTROLS		
ID	Name	Included?
HSC-1	Localized on-lot infiltration	☐
HSC-2	Impervious area dispersion (e.g. roof top disconnection)	☐
HSC-3	Street trees (canopy interception)	☐
HSC-4	Residential rain barrels (not actively managed)	☐
HSC-5	Green roofs/Brown roofs	☐
HSC-6	Blue roofs	☐
HSC-7	Impervious area reduction (e.g. permeable pavers, site design)	☐

HSCs were not incorporated into the project's design at this stage in the project's development. Any HSC's will be accounted for during final design and the cumulative volume of the HSC's will be subtracted from the required treatment volume in the Final WQMP.

IV.3.2 Infiltration BMPs

Infiltration BMPs are LID BMPs that capture, store and infiltrate storm water runoff. These BMPs are engineered to store a specified volume of water and have no design surface discharge (underdrain or outlet structure) until this volume is exceeded. Examples of infiltration BMPs include infiltration trenches, bioretention without underdrains, drywells, permeable pavement, and underground infiltration galleries.

INFILTRATION		
ID	**Name**	**Included?**
INF-3 INF-4	Bioretention Without Underdrains	☐
	Rain Gardens	☐
	Porous Landscaping	☐
	Infiltration Planters	☐
	Retention Swales	☐
INF-2	Infiltration Trenches	☐
INF-1	Infiltration Basins	☐
INF-5	Drywells	☐
INF-7	Subsurface Infiltration Galleries	☐
--	French Drains	☐
INF-6	Permeable Asphalt	☐
	Permeable Concrete	☐
	Permeable Concrete Pavers	☐
	Other:	☐

Although a site-specific geotechnical study has not yet been conducted for the project site, the geotechnical engineer reviewed the proposed site plan to evaluate overall feasibility for the Project and identify any potential geotechnical hazards or concerns based on previous studies conducted on neighboring sites. For the purposes of this Preliminary WQMP, this information was utilized to evaluate the potential for infiltrating runoff within the project boundary in accordance with the 2011 Model WQMP and Technical Guidance Document (TGD). The conclusions presented herein will be verified by a future site-specific study conducted for the Project and documented in the Final WQMP.

As discussed previously in Section III.2, the excavation for the proposed subterranean parking structure is estimated to range from approximately 30-40 feet below the proposed final ground surface. Although perched groundwater was not found at the northern portion of project site at depths up to 41-45 feet, much of the surrounding Newport Center area has been found to have groundwater seepage and wet soils (NMG, 2012).

Per the 2011 Model WQMP and Technical Guidance Document, infiltration BMPs are required to maintain a minimum separation of 10 ft from the bottom of the facility and to be placed at least 10-15 ft away from the building to avoid conflicts with the structure's foundation. In this case, such requirements would extend the infiltration BMPs, such as underground infiltration galleries and drywells, beyond the scope of the geotechnical study where the possibility of encountering perched groundwater

could not be ruled out. Thus, due to the geotechnical conditions on-site, the excavated depth of the proposed building structure, and the anticipated presence of perched groundwater between the marine terrace deposits and bedrock, infiltration of runoff on-site is considered infeasible in accordance with the Model WQMP and TGD. See also Appendix F. Further details will be included in the Final WQMP.

IV.3.3 Evapotranspiration & Rainwater Harvesting BMPs

Evapotranspiration BMPs are a class of retention BMPs that discharges stored volume predominately to ET, though some infiltration may occur. ET includes both evaporation and transpiration, and ET BMPs may incorporate one or more of these processes. BMPs must be designed to achieve the maximum feasible ET, where required to demonstrate that the maximum amount of water has been retained on-site. Since ET is not the sole process in these BMPs, specific design and sizing criteria have not been developed for ET-based BMPs.

EVAPOTRANSPIRATION		
ID	**Name**	**Included?**
--	HSCs, *see Section IV.3.1*	☐
--	Surface-based infiltration BMPs	☐
--	Biotreatment BMPs, see *Section VI.3.4*	☒
	Other:	☐

Bioretention BMPs are proposed which utilize evapotranspiration as physical process for runoff volume reduction. Bioretention BMPs are described further in Section IV.3.4.

Harvest and use (aka. Rainwater Harvesting) BMPs are LID BMPs that capture and store storm water runoff for later use. These BMPs are engineered to store a specified volume of water and have no design surface discharge until this volume is exceeded. Harvest and use BMPs include both above-ground and below-ground cisterns. Examples of uses for harvested water include irrigation, toilet and urinal flushing, vehicle washing, evaporative cooling, industrial processes and other non-potable uses.

HARVEST & REUSE / RAINWATER HARVESTING		
ID	**Name**	**Included?**
HU-1	Above-ground cisterns and basins	☐
HU-2	Underground detention	☐
--	Other:	☐

In order to quantify harvested water demand for the common areas of the project, the Modified Estimated Applied Water Use (EAWU) method was used, consistent with Appendix X of the Model WQMP's Technical Guidance Document (TGD), dated May 19, 2011.

The Modified EAWU method is modified from the OC Irrigation Code (County Ordinance No. 09-010) to account for the wet season demand and storm events (assuming that no irrigation would be applied for approximately 30% of the days in the wet season).

The equation used to calculate the Modified EAWU is:

$$Modified\ EAWU = \frac{(ETo_{wet} \times K_L \times LA \times 0.015)}{IE}$$

Where:

$Modified\ EAWU$ = estimated daily average water use during wet season
ETo_{wet} = average reference ET from November through April (inches per month) per Table X.2 of the TGD
K_L = landscape coefficient (Table X.4 of the TGD)
LA = landscape area irrigated with harvested water (square feet)
IE = irrigation efficiency (assumed at 90%)

Note: In the equation, the coefficient (0.015) accounts for unit conversions and shut down of irrigation during and for three days following a significant precipitation event.

For a system to be considered "feasible", the system must be designed with a storage volume equal to the DCV from the tributary area and achieve more than 40% capture. The system must also be able to drawdown in 30 days to meet the 40% capture value. In addition, Table X.6 of the Technical Guidance Document sets forth the demand thresholds for minimum partial capture.

TABLE X.6: HARVESTED WATER DEMAND THRESHOLDS FOR MINIMUM PARTIAL CAPTURE

Design Capture Storm Depth, inches	Wet Season Demand Required for Minimum Partial Capture, gpd per impervious acre
0.60	490
0.65	530
0.70	570
0.75	610
0.80	650
0.85	690
0.90	730
0.95	770
1.00	810

The following table summarizes the estimated applied water use for the common area landscaping of the project. Detailed calculations are provided in Appendix A. The "blend" scenario represents an accurate depiction of the proposed landscaping. Of the proposed area of landscaping around the perimeter of the project site, there is a combination of low-use planting/succulent areas and high-water use turf.

ESTIMATED APPLIED WATER USE (EAWU) FOR COMMON AREA LANDSCAPING									
Landscape Type	Total Area (ac)	% Impervious	Impervious Tributary (ac)	Irrigated LS Area (ac)	ETo_{Wet} [1] (in/mo)	K_L [2]	Modified EAWU (gpd)	Modified EAWU per impervious acre (gpd/ac)	Minimum Capture Threshold [3] (gpd/ac)
Blend	1.26	85%	1.07	0.19	2.75	0.55	208	194	570
Design Capture Volume (gal)				18,859	Drawdown (days)				91

Notes:

1 Per Table X.2 for Santa Ana Region (similar climate type), Model WQMP Technical Guidance Document, dated May 19, 2011.
2 Per Table X.4 of the Model WQMP Technical Guidance Document, dated May 19, 2011.
3 Per Table X.6 of Model WQMP Technical Guidance Document, dated May 19, 2011.

Based on the amount of common area irrigated landscaping throughout the project, the project in gallons per day per acre is below minimum threshold in Table X.6 indicating capture and reuse is not feasible based on the expected landscaping demand. The total site DCV would not be drawn down in less than 30 days indicating capture and reuse is not feasible and would not meet the 40% minimum design capture threshold.

IV.3.4 Biotreatment BMPs

Biotreatment BMPs are a broad class of LID BMPs that reduce storm water volume to the maximum extent practicable, treat storm water using a suite of treatment mechanisms characteristic of biologically active systems, and discharge water to the downstream storm drain system or directly to receiving waters. Treatment mechanisms include media filtration (though biologically-active media), vegetative filtration (straining, sedimentation, interception, and stabilization of particles resulting from shallow flow through vegetation), general sorption processes (i.e., absorption, adsorption, ion-exchange, precipitation, surface complexation), biologically-mediated transformations, and other processes to address both suspended and dissolved constituents. Examples of biotreatment BMPs include bioretention with underdrains, vegetated swales, constructed wetlands, and proprietary biotreatment systems.

BIOTREATMENT		
ID	Name	Included?
BIO-1	Bioretention with underdrains	☐
	Storm Water planter boxes with underdrains	☐

BIOTREATMENT		
ID	**Name**	**Included?**
	Rain gardens with underdrains	☐
BIO-5	Constructed wetlands	☐
BIO-2	Vegetated swales	☐
BIO-3	Vegetated filter strips	☐
BIO-7	Proprietary vegetated biotreatment systems	☒
BIO-4	Wet extended detention basin	☐
BIO-6	Dry extended detention basins	☐
--	Other:	☐

Since both infiltration and harvest and reuse are considered infeasible, biotreatment BMPs will be utilized on-site for water quality treatment. The project will implement a series of proprietary biotreatment systems for water quality treatment to treat all pollutants of concern to a medium to high level of effectiveness.

The systems will include the Modular Wetlands Systems developed by Bio Clean Environmental Services, Inc. There are several advantages of the Modular Wetland System over traditional bioretention planters including the following reasons:

- Modular Wetlands are the only proprietary biotreatment device approved through the Washington State University TAPE (Technology Assessment Protocol – Ecology) program for basic storm water treatment and enhanced treatment including sediment, nutrients and heavy metals (all proposed pollutants of concern for the Lower Newport Bay). TAPE approval is based on a series of independent field studies using strict sampling criteria to validate vendor's claims. TAPE approval is considered one of the most stringent and most reliable in the Country.

- Modular Wetlands have a pre-treatment chamber that is specifically designed to capture fine sediments and particulates through a series of BioMediaGREEN sponges which prohibit the fines and particulates from entering the bioretention chamber and accelerating potential clogging of the bioretention soil. The City of Huntington Beach has installed a Modular Wetland for a residential neighborhood and has monitored the maintenance and functionality of the system for several years. Contact: Mark Birchfield, City of Huntington Beach (714375-5041;MBirchfield@surfcity-hb.org)

- Modular Wetland systems are specifically designed for higher flow through treatment rates which reduce the potential for nutrient and copper leaching under more stagnant conditions (a common occurrence with planters that are left unmaintained).

Modular Wetlands by Modular Wetlands Systems, Inc. are proprietary biotreatment systems that utilize multi-stage treatment processes including screening media filtration, settling, and biofiltration. The pre-

treatment chamber contains the first three stages of treatment, and includes a catch basin inlet filter to capture trash, debris, gross solids and sediments, a settling chamber for separating out larger solids, and a media filter cartridge for capturing fine TSS, metals, nutrients, and bacteria. Runoff then flows through the wetland chamber where treatment is achieved through a variety of physical, chemical, and biological processes. As storm water passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded and sequestered by the soil and plants, functioning similar to bioretention systems. The discharge chamber at the end of the unit collects treated flows and discharges back into the storm drain system.

These systems were selected based on their ability to treat the project's pollutants of concerns to a medium or high effectiveness, in accordance with the Model WQMP and TGD requirements. The table below summarizes the overall treatment effectiveness for Modular Wetlands, derived from Table 4.2 of the Technical Guidance Document and testing data provided by the manufacturer. Additional details for the Modular Wetland units included in Section VI of this WQMP.

POLLUTANTS OF CONCERN AND PERFORMANCE RATINGS		
Pollutant of Concern [1]	**Treatment Effectiveness**	
	Bioretention System [2]	**Modular Wetlands Proprietary Bioretention Units** [3]
Oil & Grease	High	High
Trash & Debris	High	High
Oxygen Demanding Substances	N/A	N/A
Toxic Organic Compounds	Medium	N/A[4]
Primary Pollutant of Concern (303d listed impairments & TMDLs)		
Suspended Solids/Sediments	High	High
Nutrients	Low	Medium-High
Metals	High	High
Pathogens/Bacteria	Medium	Medium-High
Pesticides	N/A	N/A

Notes:
1 See Section II.2 of the PWQMP, revised September 27, 2012.
2 Per Table 4.2 of the Model WQMP's companion Technical Guidance Document dated May 19, 2011.
3 Based on Washington State University Technology Assessment Protocol – Ecology (TAPE) third-party independent field tests for a high-flow biotreatment system with raised under drain (Modular Wetland System-Linear). Refer to manufacturer documentation (attached) for specific removal efficiencies and source references.
4 Field and Lab Testing demonstrates 75-83% removal rates of Chemical Oxygen Demand (COD), a measure of the amount of organic pollutants commonly found in surface water. COD removals of this range would fall within the Medium-High effectiveness category.

Biotreatment BMP Sizing & Design

In accordance with the Model WQMP and TGD, the bioretention/biotreatment BMPs will be sized to treat runoff from the Design Capture Storm (85th percentile, 24-hour). Since Modular Wetlands are sized based on flow rate, they were sized utilizing the methodology for flow based BMPs (TGD Section

III.1.2 and Worksheet D). Locations and tributary drainage areas are shown on the WQMP Exhibit included in Section VI. BMP details are also included in Section VI. Detailed calculations and associated TGD Worksheets are included in Appendix A. Operation and maintenance details are included in Section V and Appendix D (O&M Plan).

MODULAR WETLAND DESIGN SUMMARY					
DMA / BMP ID[1][2]	BMP Name	Total Drainage Area (ac)	Q_{Design}[3] (cfs)	Sizes / Models[4]	Combined Treatment Capacity [5] (cfs)
A - Southwest	MWS-1	1.26	0.258	MWS 4-21 unit	0.267

Notes:
(1) See also Section IV.2.2.
(2) Refer to WQMP Exhibit in Section VI for locations of each drainage area and BMP.
(3) Detailed calculations and worksheets are included in Appendix A.
(4) Unit details and specifications are included in Section VI.
(5) Treatment capacities of each unit are based on wetland media design loading rate (controlled by downstream orifice) and perimeter surface area of wetland media provided. Individual unit sizing calculations provided by the manufacturer are included on each cut sheet/detail included in Section VI.

IV.3.5 Hydromodification Control BMPs

In accordance with updated Susceptibility Analysis, Newport Bay, Newport Coastal Streams exhibit within the 2011 TGD, the project lies in a location **not** subject to hydromodification impacts or HCOC's. Therefore, 2-year hydromodification controls are not required for post-construction runoff. Refer to Section II.3 for further details.

IV.3.6 Regional/Sub-Regional LID BMPs

Not applicable. LID BMPs (biotreatment) will be utilized for water quality treatment on-site in accordance with the MS4 Permit hierarchy identified at the beginning of this Section.

IV.3.7 Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs.

TREATMENT CONTROL BMPs		
ID	Name	Included?
TRT-1	Sand Filters	☐
TRT-2	Cartridge Media Filter	☐
PRE-1	Hydrodynamic Separation Device	☐

TREATMENT CONTROL BMPs		
ID	Name	Included?
PRE-2	Catch Basin Insert	☐
	Other:	☐

Not applicable. LID BMPs (biotreatment) will be utilized for water quality treatment on-site in accordance with the MS4 Permit hierarchy identified at the beginning of this Section.

IV.3.8 Non-Structural Source Control BMPs

The table below indicates all BMPs to be incorporated in the project. For those designated as not applicable (N/A), a brief explanation why is provided.

NON-STRUCTURAL SOURCE CONTROL BMPs				
ID	Name	Included?	Not Applicable?	If Not Applicable, Provide Brief Reason
N1	Education for Property Owners, Tenants and Occupants	☒	☐	
N2	Activity Restrictions	☒	☐	
N3	Common Area Landscape Management	☒	☐	
N4	BMP Maintenance	☒	☐	
N5	Title 22 CCR Compliance (How development will comply)	☐	☐	Not applicable – residential development.
N6	Local Water Quality Permit Compliance	☐	☒	Not applicable – residential development.
N7	Spill Contingency Plan	☐	☐	Not applicable – residential development.
N8	Underground Storage Tank Compliance	☐	☐	No underground storage tanks are proposed.
N9	Hazardous Materials Disclosure Compliance	☐	☐	Hazardous materials will not be stored on-site.
N10	Uniform Fire Code Implementation	☐	☐	Not applicable – residential development.
N11	Common Area Litter Control	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☐	☐	No loading docks are proposed.

NON-STRUCTURAL SOURCE CONTROL BMPs				
ID	Name	Included?	Not Applicable?	If Not Applicable, Provide Brief Reason
N14	Common Area Catch Basin Inspection	☒	☐	
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	
N16	Retail Gasoline Outlets	☐	☐	No retail gasoline outlets are proposed.

N1, Education for Property Owners, Tenants and Occupants

Educational materials will be provided to tenants, including brochures and restrictions to reduce pollutants from reaching the storm drain system. Examples include tips for pet care, household tips, and proper household hazardous waste disposal. Tenants will be provided with these materials by the property management prior to occupancy, and periodically thereafter. Refer to Section VII for a list of materials available and attached to this WQMP. Additional materials are available through the County of Orange Storm water Program website (http://ocwatersheds.com/PublicEd/) and the California Storm water Quality Association's (CASQA) BMP Handbooks (http://www.cabmphandbooks.com/).

N2, Activity Restrictions

The HOA shall develop ongoing activity restrictions that include those that have the potential to create adverse impacts on water quality. Activities include, but are not limited to: handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick-up, and vehicle or equipment repair and maintenance in non-designated areas, as well as any other activities that may potentially contribute to water pollution.

N3, Common Area Landscape Management

Management programs will be designed and implemented by the HOA to maintain all the common areas within the project site. These programs will cover how to reduce the potential pollutant sources of fertilizer and pesticide uses, utilization of water-efficient landscaping practices and proper disposal of landscape wastes by the owner/developer and/or contractors.

N4, BMP Maintenance

The HOA will be responsible for the implementation and maintenance of each applicable non-structural BMP, as well as scheduling inspections and maintenance of all applicable structural BMP facilities through its staff, landscape contractor, and/or any other necessary maintenance contractors. Details on BMP maintenance are provided in Section V of this WQMP, and the O&M Plan is included in Appendix D.

N11, Common Area Litter Control

The HOA will be responsible for performing trash pickup and sweeping of littered common areas on a weekly basis or whenever necessary. Responsibilities will also include noting improper disposal materials by the public and reporting such violations for investigation.

N12, Employee Training

All employees of the HOA and any contractors will require training to ensure that employees are aware of maintenance activities that may result in pollutants reaching the storm drain. Training will include, but not be limited to, spill cleanup procedures, proper waste disposal, housekeeping practices, etc.

N14, Common Area Catch Basin Inspection

All on-site catch basin inlets and drainage facilities shall be inspected and maintained by the HOA at least once a year, prior to the rainy season, no later than October 1st of each year.

N15, Street Sweeping Private Streets and Parking Lots

The HOA shall be responsible for sweeping all on-site drive aisles and parking areas within the project on a quarterly basis.

IV.3.9 Structural Source Control BMPs

The table below indicates all BMPs to be incorporated in the project. For those designated as not applicable (N/A), a brief explanation why is provided.

STRUCTURAL SOURCE CONTROL BMPs				
ID	Name	Included?	Not Applicable?	If Not Applicable, Provide Brief Reason
S1 SD-13	Provide storm drain system stenciling and signage	☒	☐	
S2 SD-34	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☒	No outdoor storage areas are proposed.
S3 SD-32	Design and construct trash and waste storage areas to reduce pollution introduction	☐	☒	Not applicable. No outdoor trash storage areas are proposed. Trash will be collected within the subterranean parking structure.
S4 SD-12	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☒	No slopes or channels on the project site.

STRUCTURAL SOURCE CONTROL BMPs				
ID	Name	Included?	Not Applicable?	If Not Applicable, Provide Brief Reason
S6 SD-31	Properly Design: Dock areas	☐	☒	No loading docks are proposed.
S7 SD-31	Properly Design: Maintenance bays	☐	☒	No maintenance bays are proposed.
S8 SD-33	Properly Design: Vehicle wash areas	☐	☒	No vehicle wash areas are proposed.
S9 SD-36	Properly Design: Outdoor processing areas	☐	☒	No outdoor processing areas are proposed.
S10	Properly Design: Equipment wash areas	☐	☒	No equipment wash areas are proposed.
S11 SD-30	Properly Design: Fueling areas	☐	☒	No fueling areas are proposed.
S12 SD-10	Properly Design: Hillside landscaping	☐	☒	There are no major slopes on the project site.
S13	Properly Design: Wash water control for food preparation areas	☐	☒	No food preparation areas/ commercial kitchens are proposed.
S14	Properly Design: Community car wash racks	☐	☒	No community car wash racks are proposed.

S1/SD-13, Provide storm drain system stenciling and signage

The phrase "NO DUMPING! DRAINS TO OCEAN", or an equally effective phrase approved by the City, will be stenciled on all major storm drain inlets within the project site to alert the public to the destination of pollutants discharged into storm water. Stencils shall be in place prior to release of certificate of occupancy. Stencils shall be inspected for legibility on an annual basis and re-stenciled as necessary.

S4/SD-12, Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control

The HOA will be responsible for the installation and maintenance of all common landscape areas utilizing similar planting materials with similar water requirements to reduce excess irrigation runoff. The HOA will be responsible for implementing all efficient irrigation systems for common area landscaping including, but not limited to, provisions for water sensors and programmable irrigation cycles. This includes smart timers, rain sensors, and moisture shut-off valves. The irrigation systems shall be in conformance with water efficiency guidelines. Systems shall be tested twice per year, and water used during testing/flushing shall not be discharged to the storm drain system.

IV.4 ALTERNATIVE COMPLIANCE PLAN

IV.4.1 Water Quality Credits

Local jurisdictions may develop a water quality credit program that applies to certain types of development projects after they first evaluate the feasibility of meeting LID requirements on-site. If it is not feasible to meet the requirements for on-site LID, project proponents for specific project types can apply credits that would reduce project obligations for selecting and sizing other treatment BMPs or participating in other alternative programs.

WATER QUALITY CREDITS	
Credit	**Applicable?**
Redevelopment projects that reduce the overall impervious footprint of the project site.	☐
Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface water quality if not redeveloped.	☐
Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance)	☐
Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).	☐
Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned	☐
Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).	☐
Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.	☐
Developments in a city center area.	☐
Developments in historic districts or historic preservation areas.	☐
Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.	☐
In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.	☐

Not applicable. Water quality credits will not be applied for the project. LID BMPs will be utilized for water quality treatment on-site in accordance with the MS4 Permit hierarchy identified at the beginning of this Section.

IV.4.2 Alternative Compliance Plan Information

Not applicable. LID BMPs (biotreatment) will be utilized for water quality treatment on-site in accordance with the MS4 Permit hierarchy identified at the beginning of this Section.

SECTION V INSPECTION/MAINTENANCE RESPONSIBILITY FOR BMPs

It has been determined that Newport Center Anacapa Associates, LLC shall assume all BMP inspection and maintenance responsibilities for the Newport Center Condominiums project.

Contact Name:	Tod Ridgeway
Title:	
Company:	Ridgeway Development Company
Address:	2804 Lafayette Ave, Newport Beach, CA 92660
Phone:	(949) 723-5854
Fax:	
Email:	tridgeway@sbcglobal.net

Should the maintenance responsibility be transferred at any time during the operational life of Newport Center Condominiums, such as when an HOA or POA is formed for a project, a formal notice of transfer shall be submitted to the City of Newport Beach at the time responsibility of the property subject to this WQMP is transferred. The transfer of responsibility shall be incorporated into this WQMP as an amendment.

The HOA shall verify BMP implementation and ongoing maintenance through inspection, self-certification, survey, or other equally effective measure. The certification shall verify that, at a minimum, the inspection and maintenance of all structural BMPs including inspection and performance of any required maintenance in the late summer / early fall, prior to the start of the rainy season. A form that may be used to record implementation, maintenance, and inspection of BMPs is included in Appendix D.

The City of Newport Beach may conduct verifications to assure that implementation and appropriate maintenance of structural and non-structural BMPs prescribed within this WQMP is taking place at the project site. The HOA shall retain operations, inspections and maintenance records of these BMPs and they will be made available to the City or County upon request. All records must be maintained for at least five (5) years after the recorded inspection date for the lifetime of the project.

Long-term funding for BMP maintenance shall be funded through fees paid into the HOA. Newport Center Anacapa Associates, LLC which will set up the HOA shall oversee that adequate funding for BMP maintenance is included within the HOA fee structure including annual maintenance fees and long-term maintenance reserve funds.

The Operations and Maintenance (O&M) Plan can be found in Appendix D.

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX				
	BMP	Inspection/Maintenance Activities	Minimum Frequency	Responsible Party
BIOTREATMENT BMPs				
BIO-7	Proprietary Biotreatment: Modular Wetlands	The Modular Wetland units shall be maintained in accordance with manufacturer's specifications. The system shall be inspected at a minimum of once every six months, prior to the start of the rainy season (October 1) each year, and after major storm events. Typical maintenance includes removing trash & debris from the catch basin screening filter (by hand), removal of sediment and solids in the settlement chamber (vacuum truck), replacement of the BioMediaGREEN™ filter cartridge, and replacement of the BioMediaGREEN™ drain down filter (if equipped). In addition, plants within the wetland chamber will require trimming as needed in conjunction with routine landscape maintenance activities. No fertilizer shall be used in this chamber. Wetland chamber should be inspected during rain events to verify flow through the system. If little to no flow is observed from the lower valve or orifice plate, the wetland media may require replacement. If prior treatment stages are properly maintained, the life of the wetland media can be up to 20 years.	2x per year	Newport Center Anacapa Associates, LLC/ HOA

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX				
	BMP	Inspection/Maintenance Activities	Minimum Frequency	Responsible Party
NON-STRUCTURAL SOURCE CONTROL BMPs				
N1	Education for Property Owners, Tenants and Occupants	Educational materials will be provided to tenants annually. Materials to be distributed are found in Appendix C. Tenants will be provided these materials by the Owner prior to occupancy and periodically thereafter.	Annually	Newport Center Anacapa Associates, LLC/ HOA
N2	Activity Restrictions	The Owner will prescribe activity restrictions to protect surface water quality, through lease terms or other equally effective measure, for the property. Restrictions include, but are not limited to, prohibiting vehicle maintenance or vehicle washing.	Ongoing	Newport Center Anacapa Associates, LLC/ HOA
N3	Common Area Landscape Management	Maintenance shall be consistent with City requirements. Fertilizer and/or pesticide usage shall be consistent with County Management Guidelines for Use of Fertilizers (OC DAMP Section 5.5) as well as local requirements. Maintenance includes mowing, weeding, and debris removal on a weekly basis. Trimming, replanting, and replacement of mulch shall be performed on an as-needed basis to prevent exposure of erodible surfaces. Trimmings, clippings, and other landscape wastes shall be properly disposed of in accordance with local regulations. Materials temporarily stockpiled during maintenance activities shall be placed away from water courses and storm drain inlets.	Monthly	Newport Center Anacapa Associates, LLC/ HOA

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX				
	BMP	Inspection/Maintenance Activities	Minimum Frequency	Responsible Party
N4	BMP Maintenance	Maintenance of structural BMPs implemented at the project site shall be performed at the frequency prescribed in this WQMP (Appendix D). Records of inspections and BMP maintenance shall be kept by the Owner and shall be available for review upon request.	Ongoing	Newport Center Anacapa Associates, LLC/ HOA
N5	Title 22 CCR Compliance (How development will comply)	Not Applicable		
N6	Local Industrial Permit Compliance	Not Applicable		
N7	Spill Contingency Plan	Not Applicable		
N8	Underground Storage Tank Compliance	Not Applicable		
N9	Hazardous Materials Disclosure Compliance	Not Applicable		
N10	Uniform Fire Code Implementation	Not Applicable		
N11	Common Area Litter Control	Litter patrol, violations investigations, reporting and other litter control activities shall be performed on a weekly basis and in conjunction with routine maintenance activities.	Weekly	Newport Center Anacapa Associates, LLC/ HOA
N12	Employee Training	Educate all new employees/ managers on storm water pollution prevention, particularly good housekeeping practices, prior to the start of the rainy season (October 1). Refresher courses shall be conducted on an as needed basis.	Annually	Newport Center Anacapa Associates, LLC/ HOA
N13	Housekeeping of Loading Docks	Not Applicable		

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX				
	BMP	Inspection/Maintenance Activities	Minimum Frequency	Responsible Party
N14	Common Area Catch Basin Inspection	Catch basin inlets and other drainage facilities shall be inspected after each storm event and once per year. Inlets and other facilities shall be cleaned prior to the rainy season, by October 1 each year.	Annually	Newport Center Anacapa Associates, LLC/ HOA
N15	Street Sweeping Private Streets and Parking Lots	Drive aisles & parking areas must be swept at least quarterly (every 3 months), including prior to the start of the rainy season (October 1).	Quarterly	Newport Center Anacapa Associates, LLC/ HOA
N16	Retail Gasoline Outlets	Not Applicable		
STRUCTURAL SOURCE CONTROL BMPs				
S1 SD-13	Provide storm drain system stenciling and signage	Storm drain stencils shall be inspected for legibility, at minimum, once prior to the storm season, no later than October 1 each year. Those determined to be illegible will be re-stenciled as soon as possible.	Annually	Newport Center Anacapa Associates, LLC/ HOA
S2 SD-34	Design and construct outdoor material storage areas to reduce pollution introduction	Not Applicable		
S3 SD-32	Design and construct trash and waste storage areas to reduce pollution introduction	Not Applicable		

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX				
	BMP	Inspection/Maintenance Activities	Minimum Frequency	Responsible Party
S4 SD-12	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	In conjunction with routine maintenance activities, verify that landscape design continues to function properly by adjusting properly to eliminate overspray to hardscape areas, and to verify that irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather, and day or night time temperatures. System testing shall occur twice per year. Water from testing/flushing shall be collected and properly disposed to the sewer system and shall not discharge to the storm drain system.	2x per year	Newport Center Anacapa Associates, LLC/ HOA
S5	Protect slopes and channels and provide energy dissipation	To be performed in conjunction with maintenance activities. Maintain vegetative cover and/or mulch to eliminate exposed soils. Any eroded surfaces to be repaired immediately. Inspections to be performed twice each year (spring and fall) and after major storm events to check for signs of erosion, gullies, and sloughing.	Monthly	Newport Center Anacapa Associates, LLC/ HOA
S6 SD-31	Properly Design: Dock areas	Not Applicable		
S7 SD-31	Properly Design: Maintenance bays	Not Applicable		
S8 SD-33	Properly Design: Vehicle wash areas	Not Applicable		
S9 SD-36	Properly Design: Outdoor processing areas	Not Applicable		
S10	Properly Design: Equipment wash areas	Not Applicable		

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX				
	BMP	Inspection/Maintenance Activities	Minimum Frequency	Responsible Party
S11 SD-30	Properly Design: Fueling areas	Not Applicable		
S12 SD-10	Properly Design: Hillside landscaping	Not Applicable		
S13	Properly Design: Wash water control for food preparation areas	Not Applicable		
S14	Properly Design: Community car wash racks	Not Applicable		

Any waste generated from maintenance activities will be disposed of properly. Wash water and other waste from maintenance activities is not to be discharged or disposed of into the storm drain system. Clippings from landscape maintenance (i.e. prunings) will be collected and disposed of properly off-site, and will not be washed into the streets, local area drains/conveyances, or catch basin inlets.

SECTION VI SITE PLAN AND DRAINAGE PLAN

The exhibits provided in this section are to illustrate the post construction BMPs prescribed within this WQMP. Drainage flow information of the proposed project, such as general surface flow lines, concrete or other surface drainage conveyances, and storm drain facilities are also depicted. All structural source control and treatment control BMPs are shown as well.

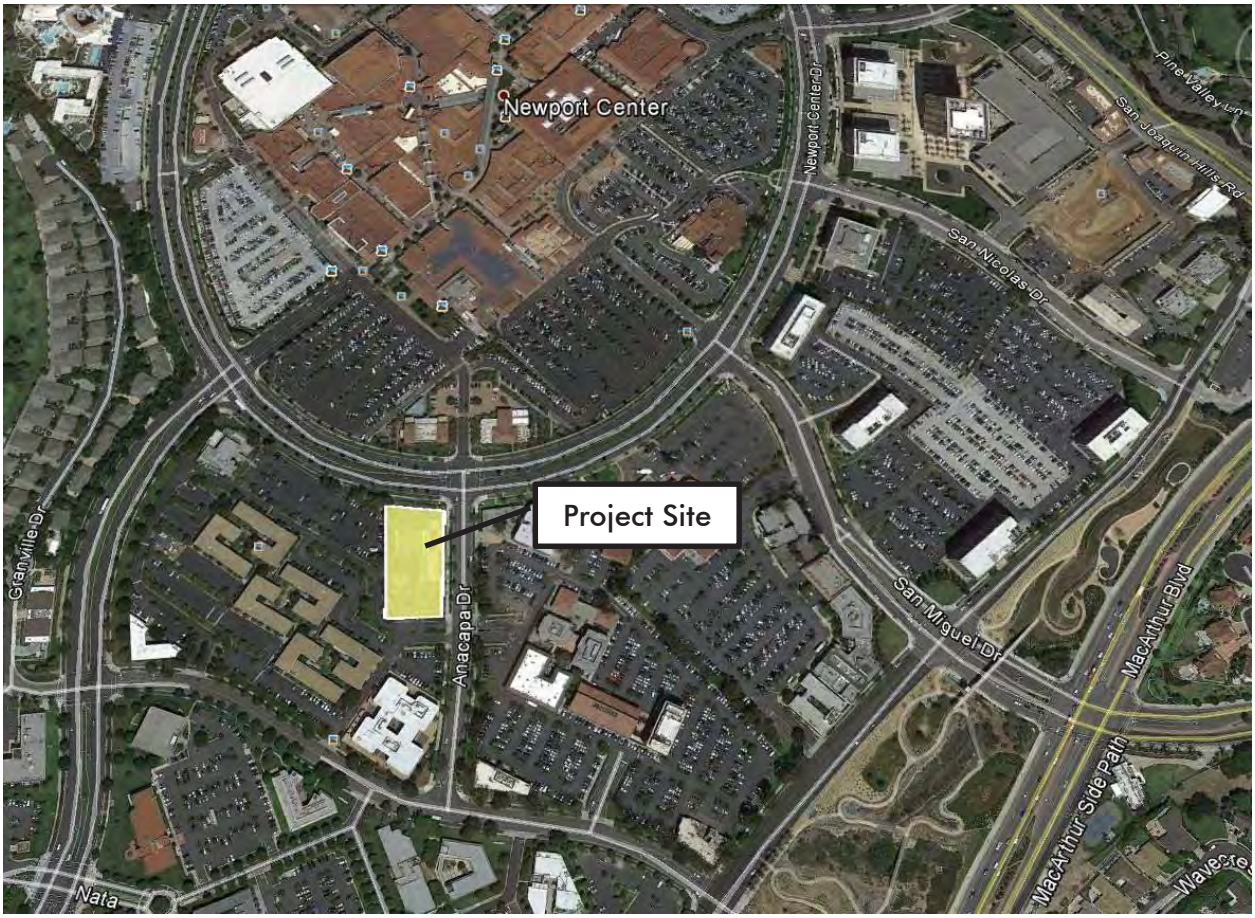
EXHIBITS

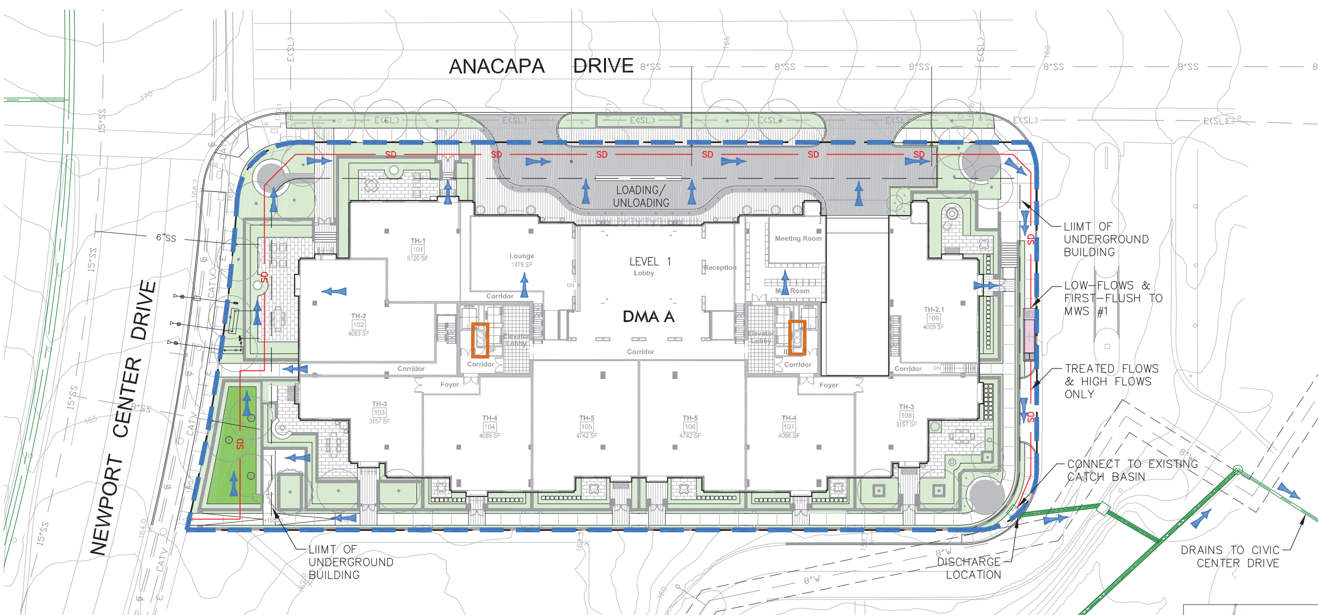
- Vicinity Map
- Preliminary WQMP Exhibit
- Conceptual Grading Plans (3 Sheets, 11"x17" reduced scale)
- Typical Cross Sections

BMP DETAILS & FACT SHEETS

- Proprietary Biotreatment (BIO-7)
- Modular Wetland Systems

VICINITY MAP



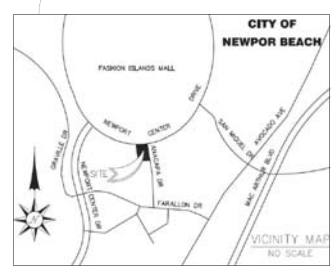


LEGEND

- PROPERTY LINE
- EASEMENT
- EXISTING STORM DRAIN TO REMAIN
- SD — PROPOSED STORM DRAIN
- BMP DRAINAGE AREA BOUNDARY (DMA A)
- PROPOSED COMMON AREA LANDSCAPING
- PROPOSED ARTIFICIAL TURF
- STREET SWEEPING PRIVATE STREETS & PARKING LOTS
- TRASH CHUTE (TO BASEMENT TRASH ROOMS)
- PROPOSED MODULAR WETLAND SYSTEM (BIOTREATMENT)
- DIRECTION OF FLOW

TOTAL AREA	54686 SF	1.26 AC
PERVIOUS	8448 SF	0.19 AC
IMPERVIOUS	46238 SF	1.07 AC

40' 0' 20' 40'
SCALE: 1" = 40'



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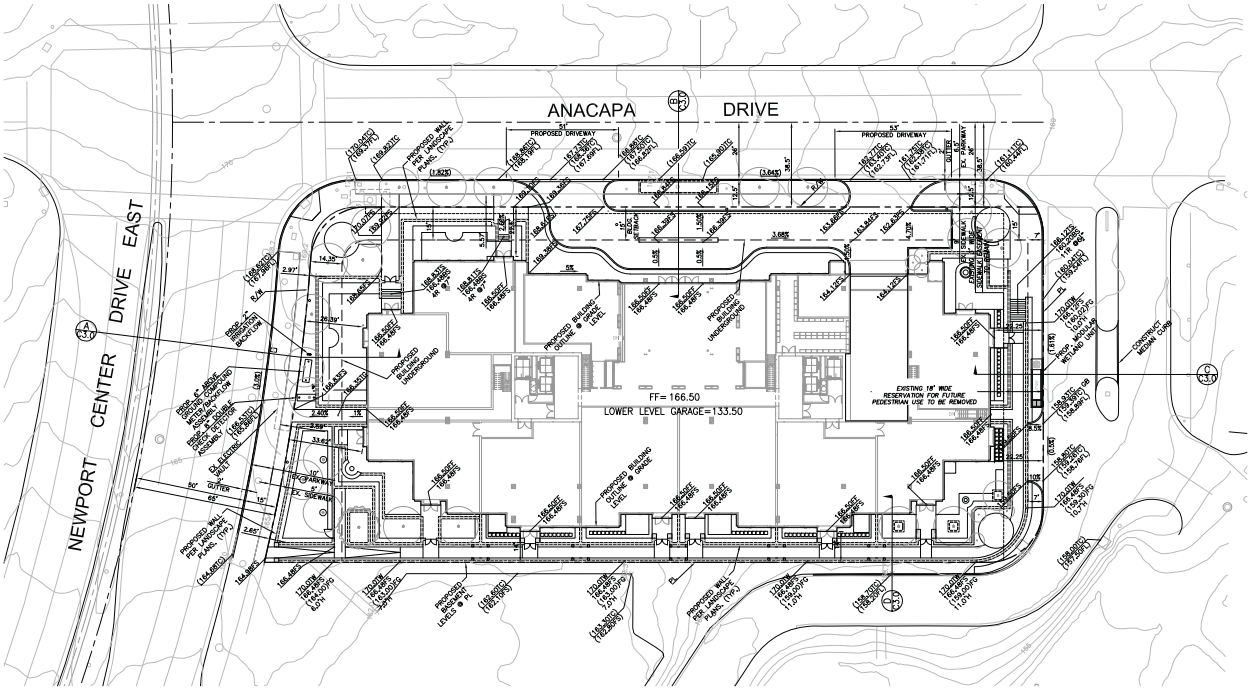
Scale: 1" = 40'
Exhibit Date: 4/8/2015

PRELIMINARY WQMP
NEWPORT CENTER CONDOMINIUMS
150 NEWPORT CENTER DRIVE
NEWPORT BEACH, CA



NOTES:
1. ANACAPA DRIVE STREET IMPROVEMENTS PLANS TO BE PREPARED DURING CONSTRUCTION DOCUMENT PHASE
2. NO STREET IMPROVEMENTS PROPOSED ALONG NEWPORT CENTER DRIVE EAST

EARTHWORK:

RAWCUT	54,300 CY
RAWFILL	0 CY
EXPORT	54,300 CY

LEGEND:

BW	BACK OF WALK
CF	CURB FACE
EX.	EXISTING
FL	FLOW LINE
FF	FINISH FLOOR
FS	FINISH SURFACE
GB	GRADE BREAK
H	HEIGHT
INV	INVERT
MIN	MINIMUM
PL	PROPERTY LINE
POC	POINT OF CONNECTION
R/W	RIGHT OF WAY
TC	TOP OF CURB

20' 0' 10' 20' 40'
SCALE: 1" = 20'

C1.0

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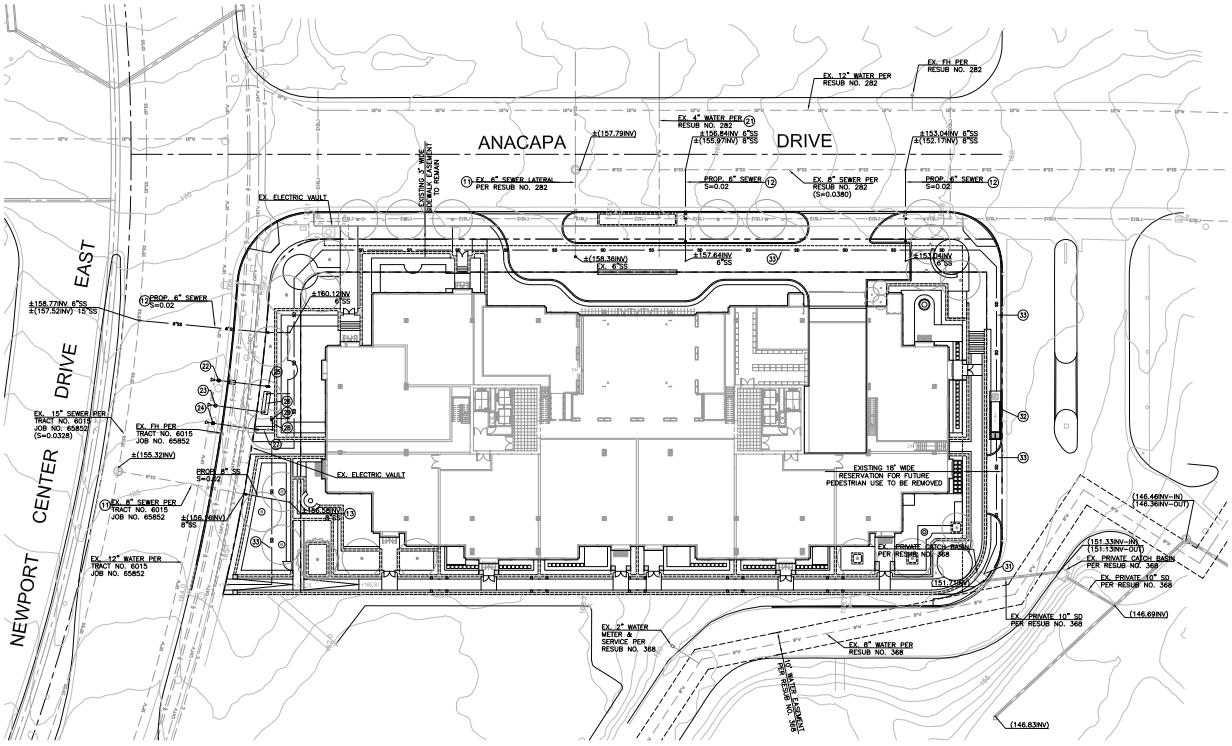
MVE + PARTNERS

Newport Center Condominiums
Newport Beach, CA

Note: Conceptual Design Package Subject To Change

CONCEPTUAL GRADING PLAN



CITY OF NEWPORT BEACH
UTILITIES DEPARTMENT

FIRE HYDRANT FLOW TEST

FIELD OBSERVATIONS AND FLOW DATA

NOTES:
1. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS HAVE NOT BEEN VERIFIED IN THE FIELD.
2. SEWER CLEAN OUTS SHALL BE INSTALLED ON EXISTING SEWER LATERALS THAT WILL BE REUSED PER CITY STANDARD STD-406-L.
3. NEW SEWER LATERALS AND CLEAN OUTS SHALL BE INSTALLED PER CITY STANDARD STD-406-L.
4. ALL EXISTING WATER SERVICES THAT ARE NOT BEING REUSED SHALL BE ABANDONED AT THE MAIN.

LEGEND:

EX.	EXISTING
INV	INVERT
PROP.	PROPOSED
S	SLOPE
SD	STORM DRAIN
SS	SANITARY SEWER

SEWER CONSTRUCTION NOTES

(11) EXISTING SEWER LATERAL TO BE REUSED – ADD CLEAN OUT PER CITY STD. 406-L. FIELD VERIFY EXISTING SEWER LATERAL LOCATION PRIOR TO CONSTRUCTION.
(12) PROPOSED 6" SEWER LATERAL PER STD-406-L
(13) PROPOSED 8" SEWER LATERAL

WATER CONSTRUCTION NOTES

(21) EXISTING WATER SERVICE TO BE ABANDONED AT MAIN
(22) PROPOSED 2" IRRIGATION METER & SERVICE
(23) PROPOSED 6" DOMESTIC SERVICE
(24) PROPOSED 8" FIRE SERVICE
(25) PROPOSED 2" IRRIGATION BACKFLOW
(26) PROPOSED 6" ABOVE GROUND COMPOUND METER/BACKFLOW ASSEMBLY
(27) PROPOSED 8" DOUBLE CHECK DETECTOR ASSEMBLY
(28) PROPOSED POST INDICATOR VALVE
(29) PROPOSED FIRE DEPARTMENT CONNECTION

STORM DRAIN CONSTRUCTION NOTES

(31) CONNECT TO EXISTING PRIVATE CATCH BASIN
(32) PROPOSED MODULAR WETLAND UNIT FOR STORM WATER TREATMENT
(33) PROPOSED AREA DRAIN

20' 0' 10' 20' 40'
SCALE: 1" = 20'

C2.0

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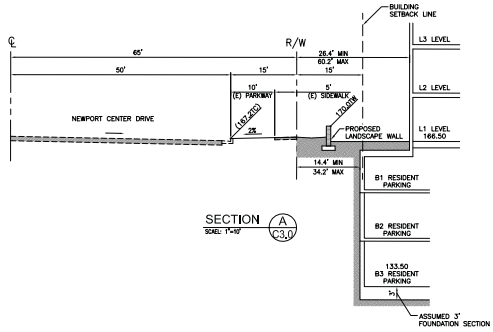
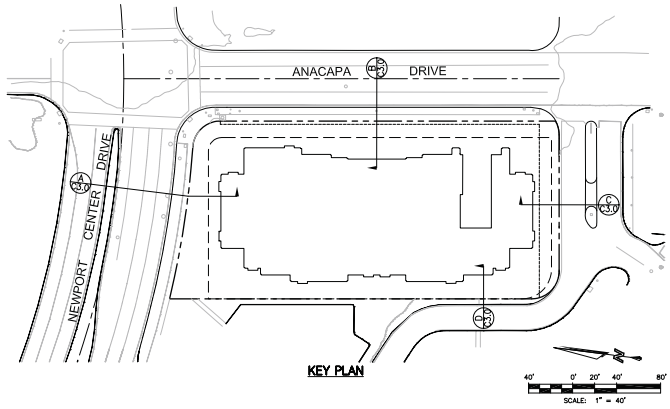
Newport Beach, CA

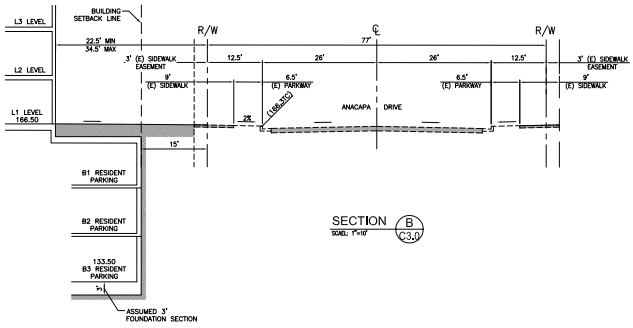
Note: Conceptual Design Package Subject To Change

CONCEPTUAL UTILITY PLAN

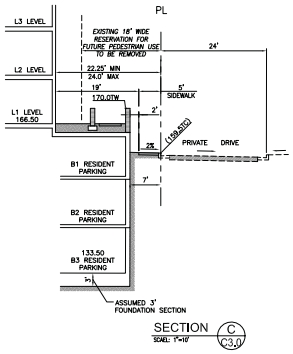


SECTION A C3.0
SCALE: 1"=10'





SECTION B C3.0
SCALE: 1"=10'



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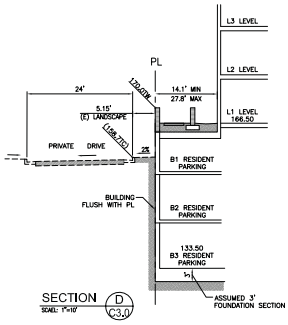

SECTION D C3.0
SCALE: 1"=10'

FUSCOE ENGINEERING
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Irvine, California 92606
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MVE + PARTNERS

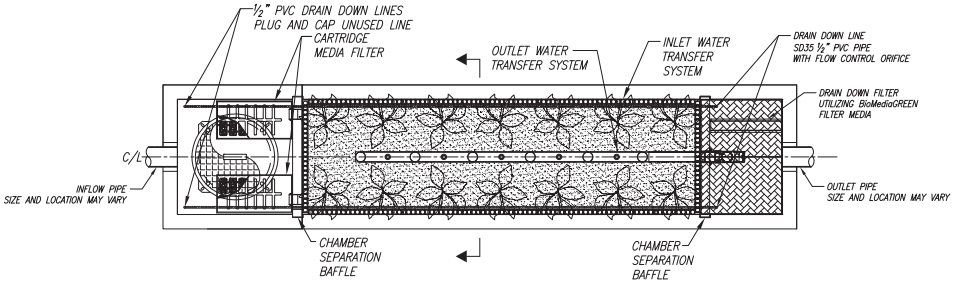
Newport Center Condominiums
Newport Beach, CA

Note: Conceptual Design Package Subject To Change

SECTIONS

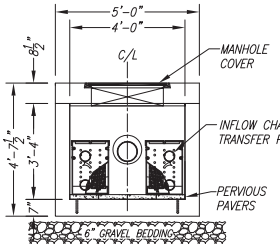
MODULAR WETLAND SYSTEMS - LINEAR 2.0
21' VAULT TYPE

FLOW RATES
PEAK TREATMENT FLOW RATE = .267 CFS OR 119.83 GPM
PEAK BYPASS FLOW RATE = N/A
SPECIFICATIONS
INSTALL AT SURFACE
O.D. DIMENSIONS = 22' X 5' X 4.7'
TOP OF CURB TO INVERT OUT = 4.13'
SEDIMENT STORAGE CAPACITY = 1000 LBS OR 23.5 CF

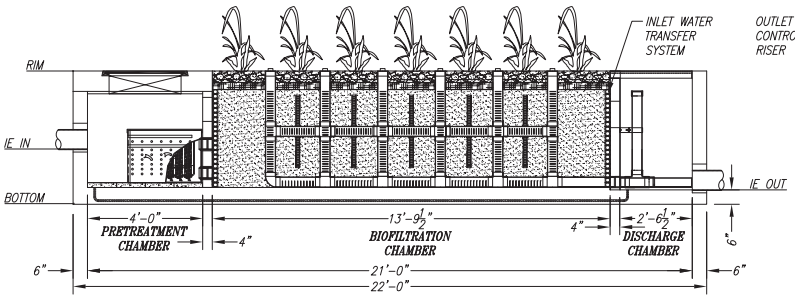


PLAN VIEW

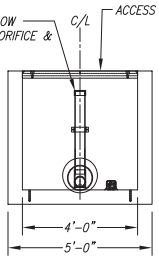
BIOFILTRATION CHAMBER SURFACE AREA CALCS
SIDES = 2
13.5' L x 3.4' H = 45.9 SF
SIDE SURFACE AREA = 91.8 SF
ENDS = 2
3.7' L x 3.4' H = 12.6 SF
END SURFACE AREA = 25.2 SF
TOTAL WETLAND MEDIA SURFACE AREA = 117.0 SF
WETLAND MEDIA LOADING RATE 119.83 GPM / 117.0 SF = 1.02 GPM/SF
PRETREATMENT FILTER SURFACE AREA CALCS
SIDES = 2
0.50' L x 1.67' H = 0.84 SF
SIDE SURFACE AREA = 1.68 SF
ENDS = 2
0.25' L x 1.67' H = 0.42 SF
END SURFACE AREA = 0.84 SF
TOTAL PRETREATMENT SURFACE AREA 2.52 SF x 28 FILTERS = 70.56 SF
PRETREATMENT FILTER LOADING RATE 119.83 GPM / 70.56 SF = 1.69 GPM/SF



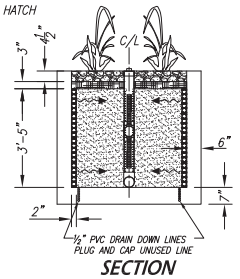
LEFT END VIEW
PRETREATMENT CHAMBER



ELEVATION VIEW



RIGHT END VIEW
DISCHARGE CHAMBER



SECTION
BIOFILTRATION CHAMBER

LEGEND

- 2" DRAIN CELL PERMITER / INLET WATER TRANSFER SYSTEM
- WETLAND MEDIA
- PLANT/ROOT MOISTURE RETENTION LAYER
- MANHOLE / ACCESS HATCH

INSTALLATION NOTES:

1. INSTALL UNIT ON LEVEL BED OF GRAVEL OF AT LEAST 6" IN DEPTH.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc=5,000 PSI.
3. REINFORCING: ASTM A-615, GRADE 60.
4. RATED FOR PARKWAY LOADING 300 PSF.
5. ALL WALLS ARE 6" THICK, BAFFLES ARE 4" THICK, BOTTOM 7" OR 8" THICK, TOP 8.5" THICK.
6. JOINT SEALANT: BUTYL RUBBER SS-S-00210

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P.O. BOX 869
OCEANSIDE, CA 92049
www.ModularWetlands.com

	NAME	DATE
DRAWN		
EDITED		

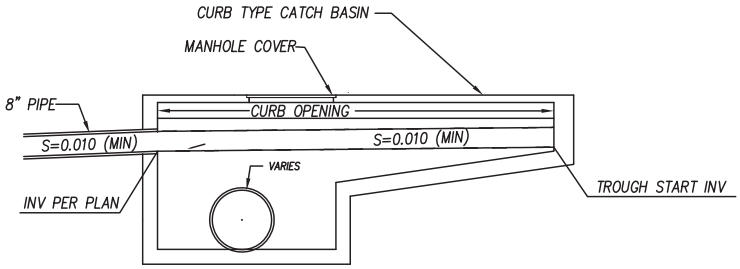
COMMENTS:

TITLE: MWS LINEAR 2.0 VAULT TYPE

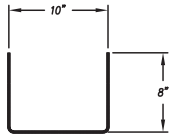
SIZE	DWG. NO.	REV
	MWS-L-4-21-V	
SCALE 1:40	UNITS = INCHES	SHEET 1 OF 1

DVERT™

MODULAR WATER QUALITY DIVERSION WEIR SYSTEM



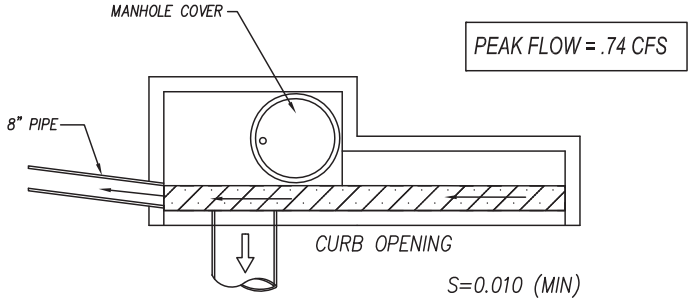
PROFILE - CATCH BASIN



TROUGH END VIEW

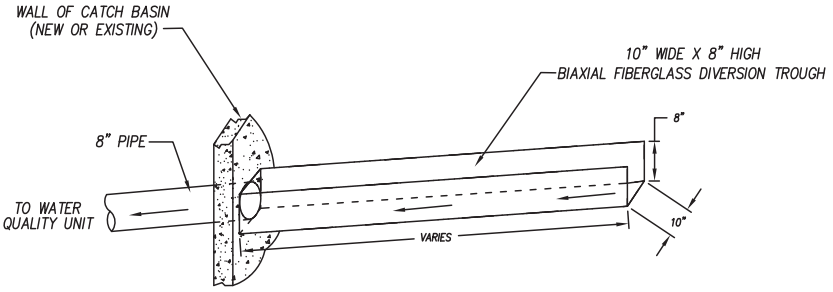
TROUGH/PIPE FLOW RATE

PIPE SIZE DIA. (Inches)	8
STATIC HEAD (Inches)	8
SAFETY FACTOR	2
FLOW RATE (cfs)	.74



PEAK FLOW = .74 CFS

TOP VIEW - CATCH BASIN



TROUGH ISOMETRIC VIEW

DRAWINGS NOT TO SCALE

PATENT PENDING

INSTALLATION NOTES:

1. TROUGH TO BE CONNECTED TO CONCRETE BELOW CURB OPENING USING 1/2" x 1-1/2" 316 STAINLESS STEEL SPIKE MUSHROOM HEAD DRIVE ANCHORS SPACED 12" ON CETNTER
2. USE DAP CONCRETE WATERTIGHT FILLER & SEALANT TO SEAL SEAM BETWEEN FIBERGLASS WEIR & CONCRETE WALL OF CATCH BASIN.

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	NAME	DATE
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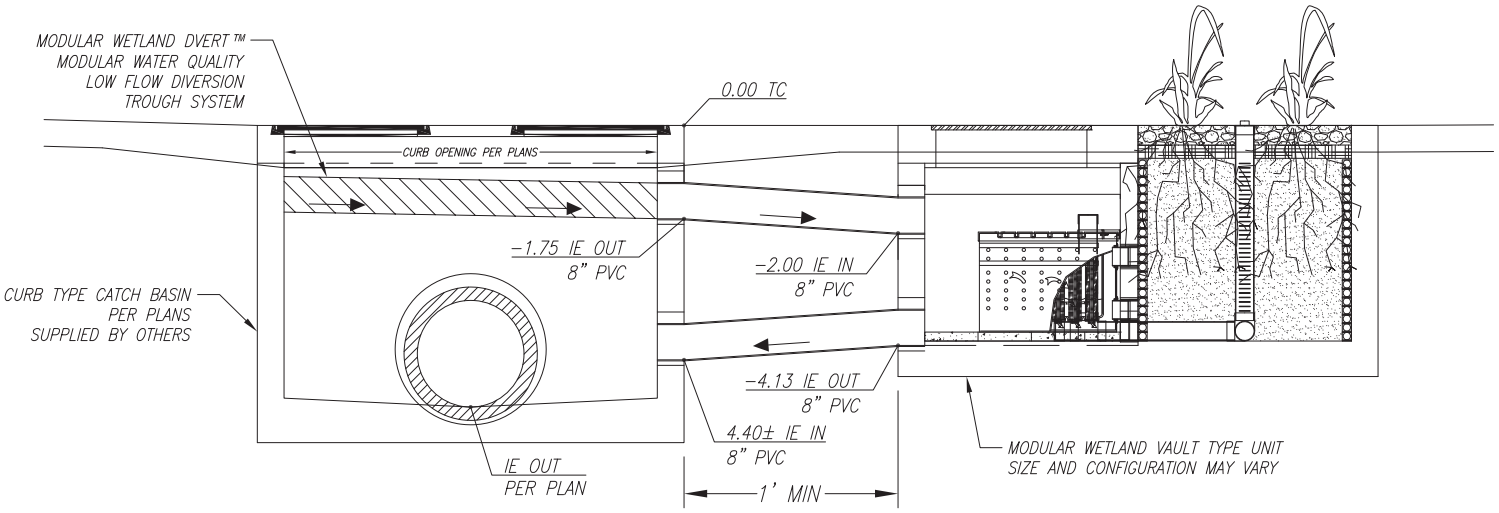
COMMENTS:

TITLE: DVERT SYSTEM

SIZE	DWG. NO.	REV

SCALE NTS	UNITS = INCHES	SHEET 1 OF 1

MODULAR WETLAND SYSTEMS - LINEAR 2.0
STANDARD DVERT ELEVATIONS



TYPICAL ELEVATION VIEW

MODULAR WETLAND SYSTEMS INC. P.O. BOX 869 OCEANSIDE, CA 92049 www.ModularWetlands.com		NAME	DATE
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PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MODULAR WETLAND SYSTEMS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MODULAR WETLAND SYSTEMS INC. IS PROHIBITED.	COMMENTS:		

TITLE: MWS LINEAR 2.0 DVERT SETUP

SIZE	DWG. NO.	REV

SCALE NTS	UNITS = INCHES	SHEET 1 OF 1

BIO-7: Proprietary Biotreatment

Proprietary biotreatment devices are devices that are manufactured to mimic natural systems such as bioretention areas by incorporating plants, soil, and microbes engineered to provide treatment at higher flow rates or volumes and with smaller footprints than their natural counterparts. Incoming flows are typically filtered through a planting media (mulch, compost, soil, plants, microbes, etc.) and either infiltrated or collected by an underdrain and delivered to the storm water conveyance system. Tree box filters are an increasingly common type of proprietary biotreatment device that are installed at curb level and filled with a bioretention type soil. For low to moderate flows they operate similarly to bioretention systems and are bypassed during high flows. Tree box filters are highly adaptable solutions that can be used in all types of development and in all types of soils but are especially applicable to dense urban parking lots, street, and roadways.

Also known as:

- *Catch basin planter box*
- *Bioretention vault*
- *Tree box filter*

Proprietary biotreatment
Source: http://www.americastusa.com /index.php/filterra/

Feasibility Screening Considerations

- Proprietary biotreatment devices that are unlined may cause incidental infiltration. Therefore, an evaluation of site conditions should be conducted to evaluate whether the BMP should include an impermeable liner to avoid infiltration into the subsurface.

Opportunity Criteria

- Drainage areas of 0.25 to 1.0 acres.
- Land use may include commercial, residential, mixed use, institutional, and subdivisions. Proprietary biotreatment facilities may also be applied in parking lot islands, traffic circles, road shoulders, and road medians.
- Must not adversely affect the level of flood protection provided by the drainage system.

OC-Specific Design Criteria and Considerations

☐ Frequent maintenance and the use of screens and grates to keep trash out may decrease the likelihood of clogging and prevent obstruction and bypass of incoming flows.

☐ Consult proprietors for specific criteria concerning the design and performance.

☐ Proprietary biotreatment may include specific media to address pollutants of concern. However, for proprietary device to be considered a biotreatment device the media must be capable of supporting rigorous growth of vegetation.

☐ Proprietary systems must be acceptable to the reviewing agency. Reviewing agencies shall have the discretion to request performance information. Reviewing agencies shall have the discretion to deny the use of a proprietary BMP on the grounds of performance, maintenance considerations, or other relevant factors.

☐ In right of way areas, plant selection should not impair traffic lines of site. Local jurisdictions may also limit plant selection in keeping with landscaping themes.

Computing Sizing Criteria for Proprietary Biotreatment Device

- Proprietary biotreatment devices can be volume based or flow-based BMPs.
- Volume-based proprietary devices should be sized using the Simple Design Capture Volume Sizing Method described in **Appendix III.3.1** or the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs described in **Appendix III.3.2**.
- The required design flowrate for flow-based proprietary devices should be computed using the Capture Efficiency Method for Flow-based BMPs described in **Appendix III.3.3)**.

Additional References for Design Guidance

- Los Angeles Unified School District (LAUSD) Stormwater Technical Manual, Chapter 4: **http://www.laschools.org/employee/design/fs-studies-and-reports/download/white_paper_report_material/Storm_Water_Technical_Manual_2009-opt-red.pdf?version_id=76975850**
- Los Angeles County Stormwater BMP Design and Maintenance Manual, Chapter 9: **http://dpw.lacounty.gov/DES/design_manuals/StormwaterBMPDesignandMaintenance.pdf**
- Santa Barbara BMP Guidance Manual, Chapter 6: **http://www.santabarbaraca.gov/NR/rdonlyres/91D1FA75-C185-491E-A882-49EE17789DF8/0/Manual_071008_Final.pdf**

MODULAR WETLANDS™

*Advanced **Stormwater** Biofiltration*

MWS Linear

Contents

The Urban Impact

For hundreds of years natural wetlands surrounding our shores have played an integral role as nature's stormwater treatment system. But as our cities grow and develop, these natural wetlands have perished under countless roads, rooftops, and parking lots.

Plant A Wetland

Without natural wetlands our cities are deprived of water purification, flood control, and land stability. Modular Wetlands and the MWS Linear re-establish nature's presence and rejuvenate water ways in urban areas.

MWS Linear

The Modular Wetland System Linear represents a pioneering breakthrough in stormwater technology as the only biofiltration system to utilize patented horizontal flow, allowing for a smaller footprint and higher treatment capacity. While most biofilters use little or no pre-treatment, the MWS Linear incorporates an advanced pre-treatment chamber that includes separation and pre-filter cartridges. In this chamber sediment and hydrocarbons are removed from runoff before it enters the biofiltration chamber, in turn reducing maintenance costs and improving performance.

Applications

The MWS Linear has been successfully used on numerous new construction and retrofit projects. The system's superior versatility makes it beneficial for a wide range of stormwater and waste water applications - treating rooftops, streetscapes, parking lots, and industrial sites.

Industrial

Many states enforce strict regulations for discharges from industrial sites. The MWS Linear has helped various sites meet difficult EPA mandated effluent limits for dissolved metals and other pollutants.

Residential

Low to high density developments can benefit from the versatile design of the MWS Linear. The system can be used in both decentralized LID design and cost-effective end-of-the-line configurations.

Streets

Street applications can be challenging due to limited space. The MWS Linear is very adaptable, and offers the smallest footprint to work around the constraints of existing utilities on retrofit projects.

Parking Lots

Parking lots are designed to maximize space and the MWS Linear's 4 ft. standard planter width allows for easy integration into parking lot islands and other landscape medians.

Commercial

Compared to bioretention systems, the MWS Linear can treat far more area in less space - meeting treatment and volume control requirements.

Mixed Use

The MWS Linear can be installed as a raised planter to treat runoff from rooftops or patios, making it perfect for sustainable "live-work" spaces.

More applications are available on our website: www.ModularWetlands.com/Applications

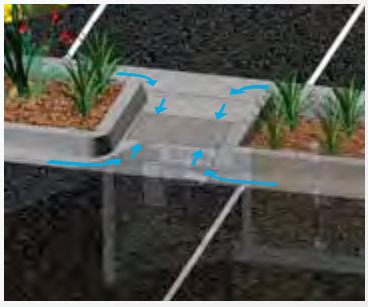
- Agriculture
- Reuse
- Low Impact Development
- Waste Water

Configurations

The MWS Linear is the preferred biofiltration system of Civil Engineers across the country due to its versatile design. This highly versatile system has available "pipe-in" options on most models, along with built-in curb or grated inlets for simple integration into your stormdrain design.

Curb Type

The *Curb Type* configuration accepts sheet flow through a curb opening and is commonly used along road ways and parking lots. It can be used in sump or flow by conditions. Length of curb opening varies based on model and size.



Grate Type

The *Grate Type* configuration offers the same features and benefits as the *Curb Type* but with a grated/drop inlet above the systems pre-treatment chamber. It has the added benefit of allowing for pedestrian access over the inlet. ADA compliant grates are available to assure easy and safe access. The *Grate Type* can also be used in scenarios where runoff needs to be intercepted on both sides of landscape islands.

Vault Type

The system's patented horizontal flow biofilter is able to accept inflow pipes directly into the pre-treatment chamber, meaning the MWS Linear can be used in end-of-the-line installations. This greatly improves feasibility over typical decentralized designs that are required with other biofiltration/bioretention systems. Another benefit of the "pipe in" design is the ability to install the system downstream of underground detention systems to meet water quality volume requirements.

Downspout Type

The *Downspout Type* is a variation of the *Vault Type* and is designed to accept a vertical downspout pipe from roof top and podium areas. Some models have the option of utilizing an internal bypass, simplifying the overall design. The system can be installed as a raised planter and the exterior can be stuccoed or covered with other finishes to match the look of adjacent buildings.

Advantages & Operation

The MWS Linear is the most efficient and versatile biofiltration system on the market, and the only system with horizontal flow which improves performance, reduces footprint, and minimizes maintenance. Figure-1 and Figure-2 illustrate the invaluable benefits of horizontal flow and the multiple treatment stages.

Featured Advantages

- Horizontal Flow Biofiltration
- Greater Filter Surface Area
- Pre-Treatment Chamber
- Patented Perimeter Void Area
- Flow Control
- No Depressed Planter Area

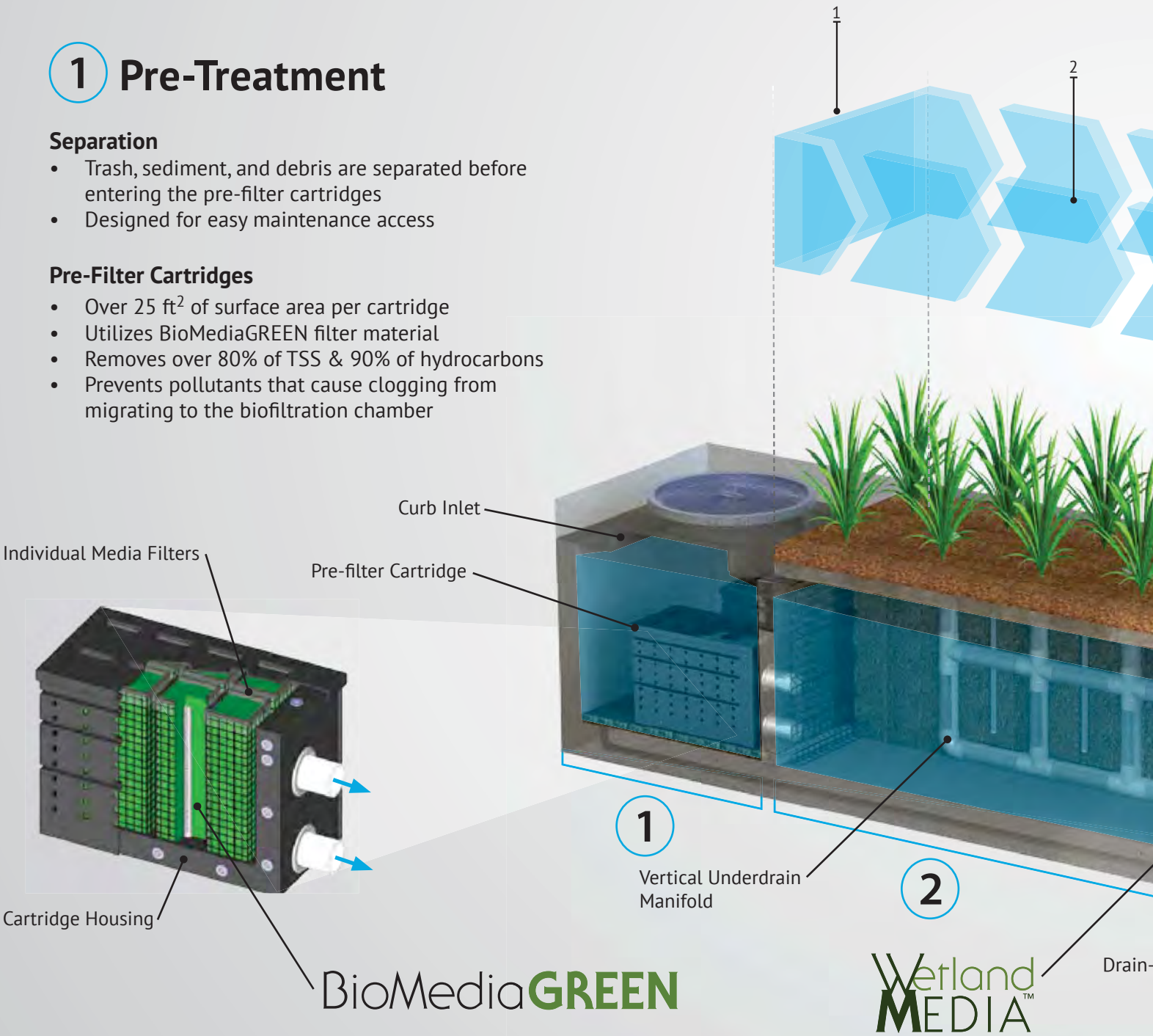
1 Pre-Treatment

Separation

- Trash, sediment, and debris are separated before entering the pre-filter cartridges
- Designed for easy maintenance access

Pre-Filter Cartridges

- Over 25 ft^2 of surface area per cartridge
- Utilizes BioMediaGREEN filter material
- Removes over 80% of TSS & 90% of hydrocarbons
- Prevents pollutants that cause clogging from migrating to the biofiltration chamber



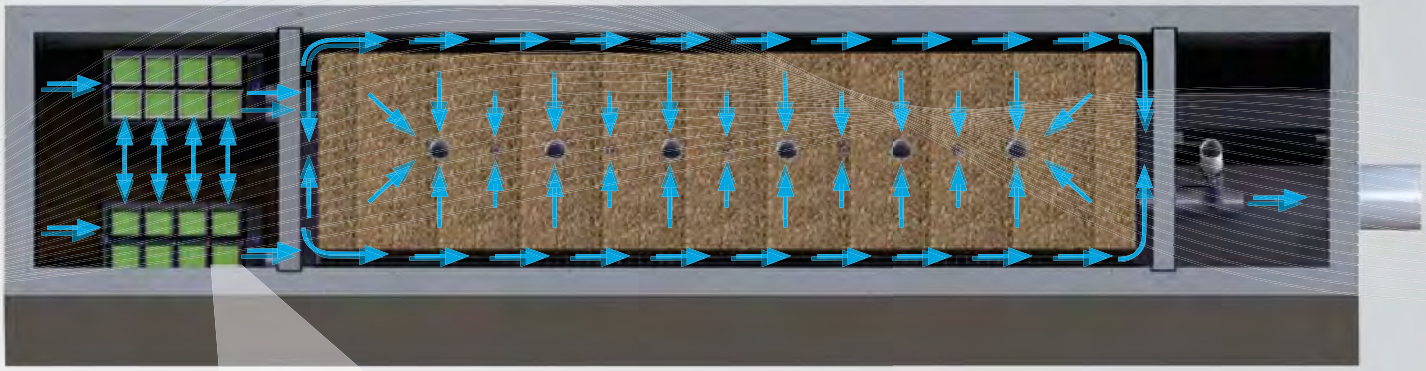


Fig. 2 - Top View

2x to 3x More Surface Area Than Traditional Downward Flow Bioretention Systems.

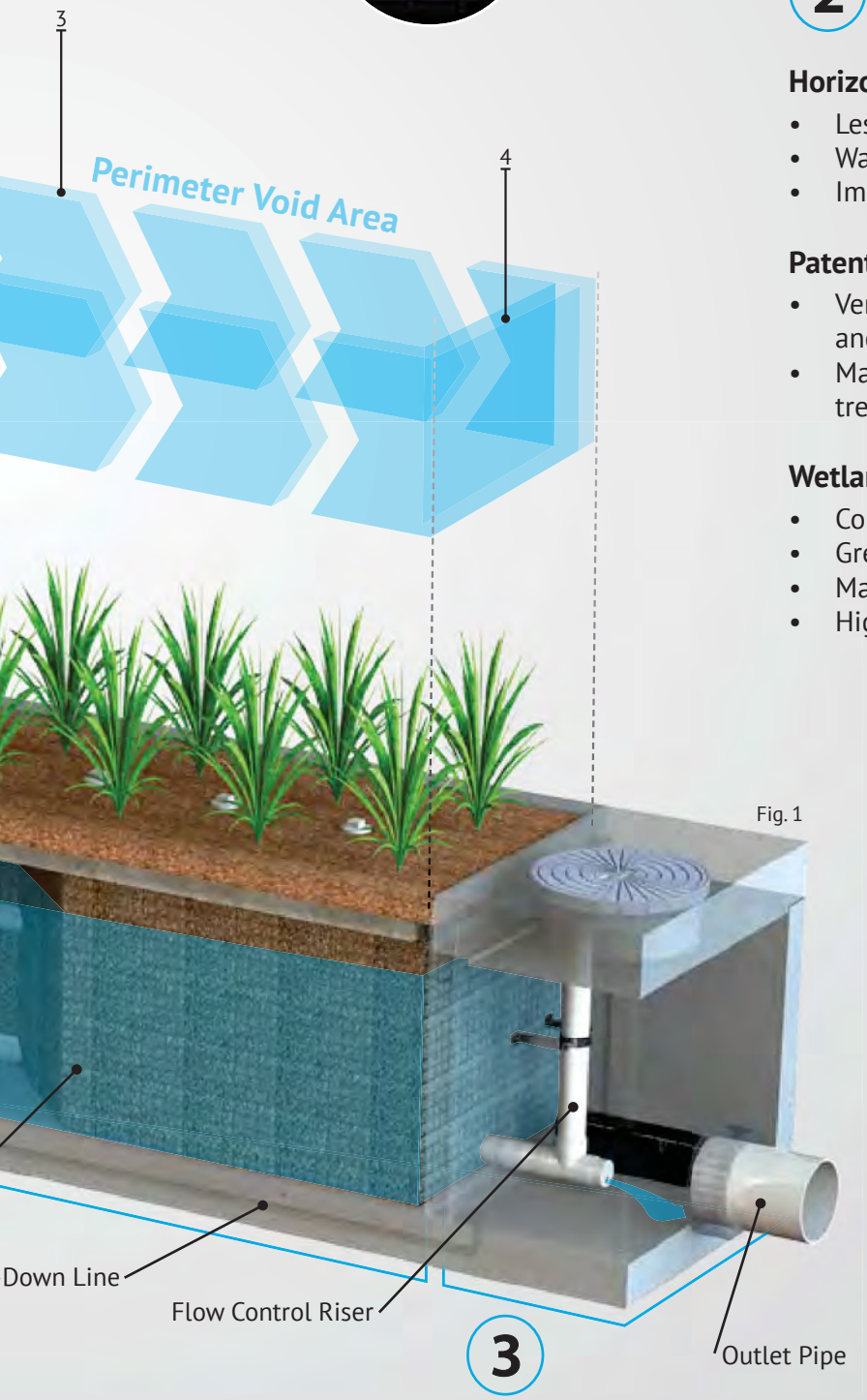


Fig. 1

2 Biofiltration

Horizontal Flow

- Less clogging than downward flow biofilters
- Water flow is subsurface
- Improves biological filtration

Patented Perimeter Void Area

- Vertically extends void area between the walls and the WetlandMEDIA on all four sides.
- Maximizes surface area of the media for higher treatment capacity

WetlandMEDIA

- Contains no organics and removes phosphorus
- Greater surface area and 48% void space
- Maximum evapotranspiration
- High ion exchange capacity and light weight

3 Discharge

Flow Control

- Orifice plate controls flow of water through WetlandMEDIA to a level lower than the media's capacity.
- Extends the life of the media and improves performance

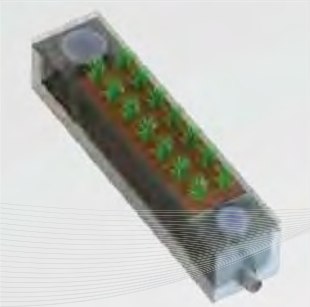
Drain-Down Filter

- The Drain-Down is an optional feature that completely drains the pre-treatment chamber
- Water that drains from the pre-treatment chamber between storm events will be treated

Orientations

Side-By-Side

The *Side-By-Side* orientation places the pre-treatment and discharge chamber adjacent to one another with the biofiltration chamber running parallel on either side. This minimizes the system length, providing a highly compact footprint. It has been proven useful in situations such as streets with directly adjacent sidewalks, as half of the system can be placed under that sidewalk. This orientation also offers internal bypass options as discussed below.



End-To-End

The *End-To-End* orientation places the pre-treatment and discharge chambers on opposite ends of the biofiltration chamber therefore minimizing the width of the system to 5 ft (outside dimension). This orientation is perfect for linear projects and street retrofits where existing utilities and sidewalks limit the amount of space available for installation. One limitation of this orientation is bypass must be external.

Bypass

Internal Bypass Weir (Side-by-Side Only)

The *Side-By-Side* orientation places the pre-treatment and discharge chambers adjacent to one another allowing for integration of internal bypass. The wall between these chambers can act as a bypass weir when flows exceed the system's treatment capacity, thus allowing bypass from the pre-treatment chamber directly to the discharge chamber.

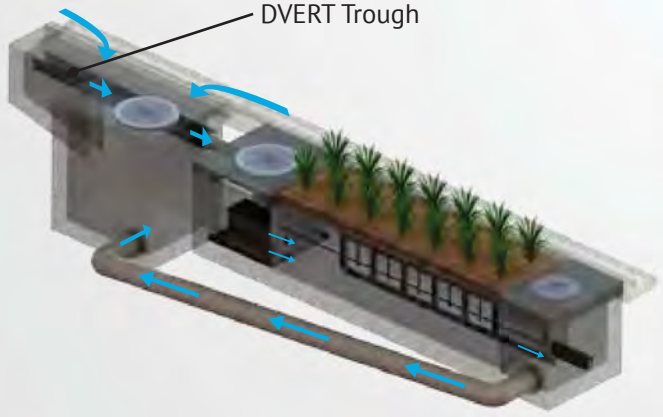
External Diversion Weir Structure

This traditional offline diversion method can be used with the MWS Linear in scenarios where runoff is being piped to the system. These simple and effective structures are generally configured with two outflow pipes. The first is a smaller pipe on the upstream side of the diversion weir - to divert low flows over to the MWS Linear for treatment. The second is the main pipe that receives water once the system has exceeded treatment capacity and water flows over the weir.

Flow By Design

This method is one in which the system is placed just upstream of a standard curb or grate inlet to intercept the first flush. Higher flows simply pass by the MWS Linear and into the standard inlet downstream.

DVERT Low Flow Diversion



This simple yet innovative diversion trough can be installed in existing or new curb and grate inlets to divert the first flush to the MWS Linear via pipe. It works similar to a rain gutter and is installed just below the opening into the inlet. It captures the low flows and channels them over to a connecting pipe exiting out the wall of the inlet and leading to the MWS Linear. The DVERT is perfect for retrofit and green street applications that allows the MWS Linear to be installed anywhere space is available.

Performance

The MWS Linear continues to outperform other treatment methods with superior pollutant removal for TSS, heavy metals, nutrients, hydrocarbons and bacteria. Since 2007 the MWS Linear has been field tested on numerous sites across the country. With it's advanced pre-treatment chamber and innovative horizontal flow biofilter, the system is able to effectively remove pollutants through a combination of physical, chemical, and biological filtration processes. With the same biological processes found in natural wetlands, the MWS Linear harnesses natures ability to process, transform, and remove even the most harmful pollutants.

Approvals

The MWS Linear has successfully met years of challenging technical reviews and testing from some of the most prestigious and demanding agencies in the nation, and perhaps the world.

Washington State DOE Approved

The MWS Linear is approved for General Use Level Designation (GULD) for Basic, Enhanced, and Phosphorus treatment at 1 gpm/ft^2 loading rate. The highest performing BMP on the market for all main pollutant categories.

TSS	Total Phosphorus	Ortho Phosphorus	Nitrogen	Dissolved Zinc	Dissolved Copper	Total Zinc	Total Copper	Motor Oil
85%	64%	67%	45%	66%	38%	69%	50%	95%

DEQ Assignment

The Virginia Department of Environmental Quality assigned the MWS Linear, the highest phosphorus removal rating for manufactured treatment devices to meet the new Virginia Stormwater Management Program (VSMP) Technical Criteria.

MASTEP Evaluation

The University of Massachusetts at Amherst – Water Resources Research Center, issued a technical evaluation report noting removal rates up to 84% TSS, 70% Total Phosphorus, 68.5% Total Zinc, and more.

Rhode Island DEM Approved

Approved as an authorized BMP and noted to achieve the following minimum removal efficiencies: 85% TSS, 60% Pathogens, 30% Total Phosphorus for discharges to freshwater systems, and 30% Total Nitrogen for discharges to saltwater or tidal systems.

Flow Based Sizing

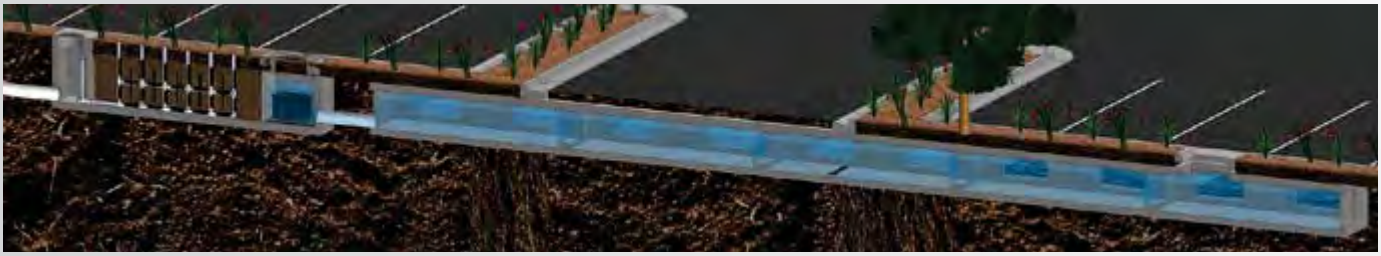
The MWS Linear can be used in stand alone applications to meet treatment flow requirements. Since the MWS Linear is the only biofiltration system that can accept inflow pipes several feet below the surface it can be used not only in decentralized design applications but also as a large central end-of-the-line application for maximum feasibility.

Treatment Flow Sizing Table

Model #	Dimensions	WetlandMedia Surface Area	Treatment Flow Rate (cfs)
MWS-L-4-4	4' x 4'	23 ft^2	0.052
MWS-L-4-6	4' x 6'	32 ft^2	0.073
MWS-L-4-8	4' x 8'	50 ft^2	0.115
MWS-L-4-13	4' x 13'	63 ft^2	0.144
MWS-L-4-15	4' x 15'	76 ft^2	0.175
MWS-L-4-17	4' x 17'	90 ft^2	0.206
MWS-L-4-19	4' x 19'	103 ft^2	0.237
MWS-L-4-21	4' x 21'	117 ft^2	0.268
MWS-L-8-8	8' x 8'	100 ft^2	0.230
MWS-L-8-12	8' x 12'	151 ft^2	0.346
MWS-L-8-16	8' x 16'	201 ft^2	0.462

Volume Based Sizing

Many states require treatment of a water quality volume and do not offer the option of flow based design. The MWS Linear and its unique horizontal flow makes it the only biofilter that can be used in volume based design installed downstream of ponds, detention basins, and underground storage systems.



Treatment Volume Sizing Table

Model #	Treatment Capacity (cu. ft.) @ 24-Hour Drain Down	Treatment Capacity (cu. ft.) @ 48-Hour Drain Down
MWS-L-4-4	1140	2280
MWS-L-4-6	1600	3200
MWS-L-4-8	2518	5036
MWS-L-4-13	3131	6261
MWS-L-4-15	3811	7623
MWS-L-4-17	4492	8984
MWS-L-4-19	5172	10345
MWS-L-4-21	5853	11706
MWS-L-8-8	5036	10072
MWS-L-8-12	7554	15109
MWS-L-8-16	10073	20145

Installation

The MWS Linear is simple, easy to install, and has a space efficient design that offers lower excavation and installation costs compared to traditional tree-box type systems. The structure of the system resembles pre-cast catch basin or utility vaults and is installed in a similar fashion.

The system is delivered fully assembled for quick installation. Generally, the structure can be unloaded and set in place in 15 minutes. Our experienced team of field technicians are available to supervise installations and provide technical support.

Maintenance

Reduce your maintenance costs, man hours, and materials with the MWS Linear. Unlike other biofiltration systems that provide no pre-treatment, the MWS Linear is a self-contained treatment train which incorporates simple and effective pre-treatment.

Maintenance requirements for the biofilter itself are almost completely eliminated, as the pre-treatment chamber removes and isolates trash, sediments, and hydrocarbons. What's left is the simple maintenance of an easily accessible pre-treatment chamber that can be cleaned by hand or with a standard vac truck. Only periodic replacement of low-cost media in the pre-filter cartridges is required for long term operation and there is absolutely no need to replace expensive biofiltration media.

Plant Selection

Abundant plants, trees, and grasses bring value and an aesthetic benefit to any urban setting, but those in the MWS Linear do even more - they increase pollutant removal. What's not seen, but very important, is that below grade the stormwater runoff/flow is being subjected to nature's secret weapon: a dynamic physical, chemical, and biological process working to break down and remove non-point source pollutants. The flow rate is controlled in the MWS Linear, giving the plants more "contact time" so that pollutants are more successfully decomposed, volatilized and incorporated into the biomass of The MWS Linear's micro/macro flora and fauna.

A wide range of plants are suitable for use in the MWS Linear, but selections vary by location and climate. View suitable plants by selecting the list relative to your project location's hardy zone.

Please visit www.ModularWetlands.com/Plants for more information and various plant lists.

MWS Linear 2.0 Flow Based Sizing Calculations - *State of California*

Model #	Physical Depth of Model from TC, FS, TC to INVERT OUT	Wetland Perimiter (ft)	**Wetland Chamber Max HGL Height (ft)	Wetland Surface Area (sq ft)	Treatment Capacity for Flow Based Design **FLOW DESIGN**	
					GPM	CFS
MWS-L-4-4	4.13'	6.7	3.40	22.78	**23.46**	**0.052**
MWS-L-4-6	4.13'	9.4	3.40	31.96	**32.92**	**0.073**
MWS-L-4-8	4.13'	14.8	3.40	50.32	**51.83**	**0.115**
MWS-L-4-13	4.13'	18.4	3.40	62.56	**64.44**	**0.144**
MWS-L-4-15	4.13'	22.4	3.40	76.16	**78.44**	**0.175**
MWS-L-4-17	4.13'	26.4	3.40	89.76	**92.45**	**0.206**
MWS-L-4-19	4.13'	30.4	3.40	103.36	**106.46**	**0.237**
MWS-L-4-21	4.13'	34.4	3.40	116.96	**120.47**	**0.268**
MWS-L-8-12	4.13'	44.4	3.40	150.96	**155.49**	**0.346**
MWS-L-8-16	4.13'	59.2	3.40	201.28	**207.32**	**0.462**

Shallow or Deeper Units Available. Change in Height Will Affect Treatment Capacity

** Not the physical height of the unit but the max HGL in the system at peak treatment flow rate

Based on loading rate of 100 in/hr or 1.03 gpm/sq ft

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info@modularwetlands.com **P: 760-433-7640** **2972 San Luis Rey Rd, Oceanside CA 92058**

Modular Wetland System - Linear® Plants for Hardy Zone 10

Common Name ***Latin Name***	**Light Exposure**	**Hardy Range**	**Height**	**Flower Color**
canna, canna tropicana, canna lilly *Canna X generalis*	full sun to partial shade	USDA Zones 8-11	2.5 to 8 feet	yellow, orange, red
Lily-of-the-Nile, African Lily, African Blue Lily *Agapanthus spp*	full sun to partial shade	USDA Zones 8-11	2 to 4 feet	blue
Vetiveria zizanioides (L.) Nash Vetiver Grass	full sun	USDA Zones 5-11	2 to 8 feet	green
giant wild rye *Leymus condensatus*	full sun	USDA Zones 3-11	4 to 8 feet	brown
society garlic, pink agapanthus *Tulbaghia violacea*	full sun to full shade	USDA Zones 7-10	1.5 to 3 feet	lavender
Gulf muhlygrass, mist grass, hairawn muhly *Muhlenbergia capillaris*	full sun to partial shade	USDA Zones 5-10	2 to 3 feet	pinkish purple
Lindheimer's muhlygrass, blue muhlygrass *Muhlenbergia lindheimeri*	full sun	USDA Zones 7-11	2 to 4 feet	purple to gray
horsetail, scouring rush, E. prealtum *Equisetum hyemale*	full sun to light shade	USDA Zones 3-11	2 to 4 feet	n/a
cattail, reed-mace *Typha latifolia*	full sun	USDA Zones 2-11	3 to 9 feet	brown
papyrus, Egyptian papyrus, bulrushes *Cyperus papyrus*	full sun to partial shade	USDA Zones 9-11	2 to 10 feet	white
lavender *Lavandula L.*	sun	USDA Zones 5-10	1 to 2 feet	purple

palm sedge *Carex phyllocephala*	full sun to full shade	USDA Zones 7-10	1 to 2 feet	green
lemongrass, oil grass *Cymbopogon citratus*	full sun to partial shade	USDA Zones 10-11	4 to 6 feet	n/a
umbrella sedge, umbrella plant *Cyperus involucratus*	full sun to partial shade	USDA Zones 8-11	2 to 6 feet	green/white
feather grass, Mexican needle grass *Nassella tenuissima*	full sun to partial shade	USDA Zones 7-11	2 to 3 feet	green/brown
sea oats, Chasmanthium paniculatum *Uniola paniculata*	full sun to partial shade	USDA Zones 6-10	3 to 6 feet	golden/brown
Cape lily, Powell's crinum lily *Crinum X powellii*	full sun to partial shade	USDA Zones 6-11	3 to 4 feet	white/pink
African iris, fortnight lily, morea iris *Dietes iridioides*	full sun to partial shade	USDA Zones 8-10	2 to 4 feet	white/purple
whirling butterflies, white gaura *Gaura lindheimeri*	full sun to partial shade	USDA Zones 5-10	2 to 4 feet	white/pink
daylily *Hemerocallis hybrids*	full sun to partial shade	USDA Zones 2-10	1 to 3.5 feet	various
Adam's needle, bear grass, weak-leaf yucca *Yucca filamentosa*	full sun	USDA Zones 5-10	3 to 5 feet	white
brome hummock sedge *carex bromoides*	full sun to partial shade	USDA Zones 2-10	1 ft	green

---

The Modular Wetland System - Linear® standard 22' long system will require 18 to 20 plants. Different size systems will require different plant quanitities; please contact us for detailed information.

The plants listed are tolerant to drought and have deep roots to allow for ehanced pollutant removal.

These plants are subject to availability in local areas. If you would like to use a different plant please contact us. We will work with you to ensure the chosen plants work with the projects current landscape theme.

The Modular Wetland System - Linear® should be irrigated like any other planter area. The plants in the system must receive adequate irrigation to ensure plant survival during periods of drier weather. As with all landscape areas the plants within the Modular Wetland System - Linear will require more frequent watering during the establishment period.

For more information please contact at: 760-433-7640 or email: info@modularwetlands.com

SECTION VII EDUCATIONAL MATERIALS

The educational materials included in this WQMP are provided to inform people involved in future uses, activities, or ownership of the site about the potential pitfalls associated with careless storm water management. "The Ocean Begins at Your Front Door" provides users with information about storm water that is/will be generated on site, what happens when water enters a storm drain, and its ultimate fate, discharging into the ocean. Also included are activities guidelines to educate anyone who is or will be associated with activities that have a potential to impact storm water runoff quality, and provide a menu of BMPs to effectively reduce the generation of storm water runoff pollutants from a variety of activities. The educational materials that may be used for the proposed project are included in Appendix C of this WQMP and are listed below.

EDUCATION MATERIALS			
Residential Materials (http://www.ocwatersheds.com)	**Check If Attached**	**Business Materials (http://www.ocwatersheds.com)**	**Check If Attached**
The Ocean Begins at Your Front Door	☒	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☐	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☐	Proper Maintenance Practices for Your Business	☐
Household Tips	☒	**Other Materials (http://www.ocwatersheds.com) (http://www.cabmphandbooks.com)**	**Check If Attached**
Proper Disposal of Household Hazardous Waste	☒		
Recycle at Your Local Used Oil Collection Center (North County)	☐	DF-1 Drainage System Operation & Maintenance	☒
Recycle at Your Local Used Oil Collection Center (Central County)	☒	R-1 Automobile Repair & Maintenance	☐
Recycle at Your Local Used Oil Collection Center (South County)	☐	R-2 Automobile Washing	☐
Tips for Maintaining Septic Tank Systems	☐	R-3 Automobile Parking	☐
Responsible Pest Control	☒	R-4 Home & Garden Care Activities	☒
Sewer Spill	☐	R-5 Disposal of Pet Waste	☒
Tips for the Home Improvement Projects	☐	R-6 Disposal of Green Waste	☒
Tips for Horse Care	☐	R-7 Household Hazardous Waste	☒
Tips for Landscaping and Gardening	☒	R-8 Water Conservation	☒
Tips for Pet Care	☒	SD-10 Site Design & Landscape Planning	☒
Tips for Pool Maintenance	☒	SD-11 Roof Runoff Controls	☐
Tips for Residential Pool, Landscape and Hardscape Drains	☒	SD-12 Efficient Irrigation	☒
Tips for Projects Using Paint	☐	SD-13 Storm Drain Signage	☒
Tips for Protecting Your Watershed	☐	SD-31 Maintenance Bays & Docs	☐
Other: Children's Brochure	☐	SD-32 Trash Storage Areas	☐

APPENDICES

Appendix A

Supporting Calculations

Worksheet B: Simple Design Capture Volume Sizing Method

Project: Newport Center Condominiums

Date: 2/26/2015

			Total Site	
Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter design capture storm depth from Figure III.1, *d* (inches)	d=	0.70	inches
2	Enter the effect of provided HSCs, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
3	Calculate the remainder of the design capture storm depth, $d_{remainder}$ (inches) (Line 1 – Line 2)	$d_{remainder}$=	0.70	inches
Step 2: Calculate the DCV				
1	Enter Project area tributary to BMP (s), *A* (acres)	A=	1.2600	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	85.0%	%
3	Calculate runoff coefficient, *C= (0.75 x imp) + 0.15*	C=	0.7875	
4	Calculate runoff volume, $V_{design} = (C \times d_{remainder} \times A \times 43560 \times (1/12))$	V_{design}=	2,521.3	cu-ft
Step 3: Design BMPs to ensure full retention of the DCV				
Step 3a: Determine design infiltration rate				
1	Enter measured infiltration rate, $K_{measured}$ (in/hr) (Appendix VII)	$K_{measured}$=	*N/A*	in/hr
2	Enter combined safety factor from Worksheet H, S_{final} (unitless)	S_{final}=	*N/A*	
3	Calculate design infiltration rate, $K_{design} = K_{measured} / S_{final}$	K_{design}=	*N/A*	in/hr
Step 3b: Determine minimum BMP footprint				
4	Enter drawdown time, *T* (max 48 hours)	T=	*N/A*	hours
5	Calculate max retention depth that can be drawn down within the drawdown time (feet), $D_{max} = K_{design} \times T \times (1/12)$	D_{max}=	*N/A*	feet
6	Calculate minimum area required for BMP (sq-ft), $A_{min} = V_{design} / d_{max}$	A_{min}=	*N/A*	sq-ft
Infiltraiton is infeasible - Biotreatment will be utilized (see Worksheet D)				

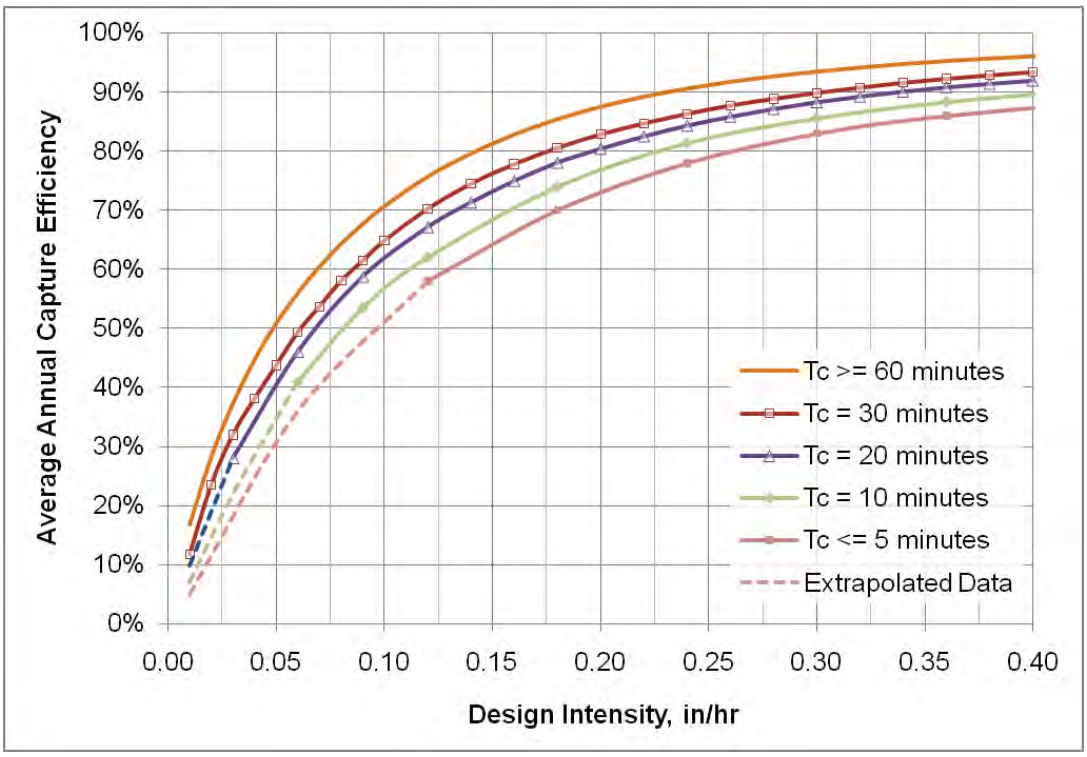
Worksheet D: Capture Efficiency Method for Flow-Based BMPs

Project: Newport Center Condominiums

Date: 2/26/2015

			Total Site	
Step 1: Determine the design capture storm depth used for calculating volume				
1	Enter the time of concentration, T_c (min) (See Appendix IV.2)	T_c=	5.0	min
2	Using Figure III.4, determine the design intensity at which the estimated time of concentration (T_c) achieves 80% capture efficiency, I_1	I_1=	0.260	in/hr
3	Enter the effect depth of provided HSCs upstream, d_{HSC} (inches) (Worksheet A)	d_{HSC}=	0	inches
4	Enter capture efficiency corresponding to d_{HSC}, Y_2 (Worksheet A)	Y_2=	0%	%
5	Using Figure III.4, determine the design intensity at which the time of concentration (T_c) achieves the upstream capture efficiency (Y_2), I_2	I_2=	0	in/hr
6	Determine the design intensity that must be provided by BMP, $I_{design} = I_1 - I_2$	I_{design}=	0.260	in/hr
Step 2: Calculate the design flowrate				
1	Enter Project area tributary to BMP(s), *A* (acres)	A=	1.260	acres
2	Enter Project Imperviousness, *imp* (unitless)	imp=	85.0%	%
3	Calculate runoff coefficient, $C = (0.75 \times imp) + 0.15$	C=	0.788	
4	Calculate design flowrate, $Q_{design} = (C \times i_{design} \times A)$	Q_{design}=	0.258	cfs
Supporting Calculations				
Describe System:				
Proprietary BioTreatment (BIO-7): Modular Wetland Systems (MWS)				
		Unit Size / Model =	*MWS-L-4-21*	
		Unit Size / Model Treatment Capacity =	*0.267*	cfs
		Number of Units Needed =	*1*	
		Total Bio-treatment Provided =	*0.267*	cfs
Provide time of concentration assumptions:				
Assumed = 5 minutes for conservative estimate			*5.0*	min

Figure III.4. Capture Efficiency Nomograph for Off-line Flow-based Systems in Orange County



Harvest & Reuse Irrigation Demand Calculations - Newport Center Condominiums

2/26/2015

Storm Water Design Caputre Volume (SQDV)

Drainage Area / Land Use Type	Impervious Area (ac)	Irrigated Area (ac)	% impervious	Runoff Coefficient	Design Storm Depth (in)	Drainage Area (acres)	DCV (ft^3)	DCV (gal)
Total Site	1.07	0.19	85%	0.7875	0.7	1.260	**2,521.3**	**18,859**

	Eto
Irvine	3.00
Laguna Beach	2.75
Santa Ana	2.93

Modified

$$EAWU = \frac{(Eto \times KL \times LA \times 0.015)}{IE}$$

$$EIATA = \frac{LA \times KL}{(IE \times Tributary\ Imp.\ Area)}$$

High-use Turf Landscaping

Drainage Area / Land Use Type	Total Area (ac)	Total Area (sf)	% Impervious	Impervious (sf)	Pervious / LA (sf)	Eto	KL	Modified EAWU	EAWU/ Impervious Acre	Minimum EAWU/ Impervious Acre (Table X.6)	Feasible?	EIATA	Minimum EIATA (Table X.8)	Drawdown (days)	Drawdown (hours)	% Capture (Fig. III.2)
Total Site	1.2600	54,886	85%	46,653	8,233	2.75	0.7	264.14	246.63	570	No	0.14	0.42	71.4	1,714	<40%

Low Water Use Landscaping

Drainage Area / Land Use Type	Total Area (ac)	Total Area (sf)	% Impervious	Impervious (sf)	Pervious / LA (sf)	Eto	KL	Modified EAWU	EAWU/ Impervious Acre	Minimum EAWU/ Impervious Acre (Table X.6)	Feasible?	EIATA	Minimum EIATA (Table X.8)	Drawdown (days)	Drawdown (hours)	% Capture (Fig. III.2)
Total Site	1.260	54,886	85%	46,653	8,233	2.75	0.35	132.07	123.31	570	No	0.07	0.84	142.8	3,427	<40%

Blend of High-Use and Low-Use Landscaping

Drainage Area / Land Use Type	Total Area (ac)	Total Area (sf)	% Impervious	Impervious (sf)	Pervious / LA (sf)	Eto	KL	Modified EAWU	EAWU/ Impervious Acre	Minimum EAWU/ Impervious Acre (Table X.6)	Feasible?	EIATA	Minimum EIATA (interpo-lated)	Drawdown (days)	Drawdown (hours)	% Capture (Fig. III.2)
Total Site	1.260	54,886	85%	46,653	8,233	2.75	0.55	207.54	193.78	570	No	0.11	0.63	90.9	2,181	<40%

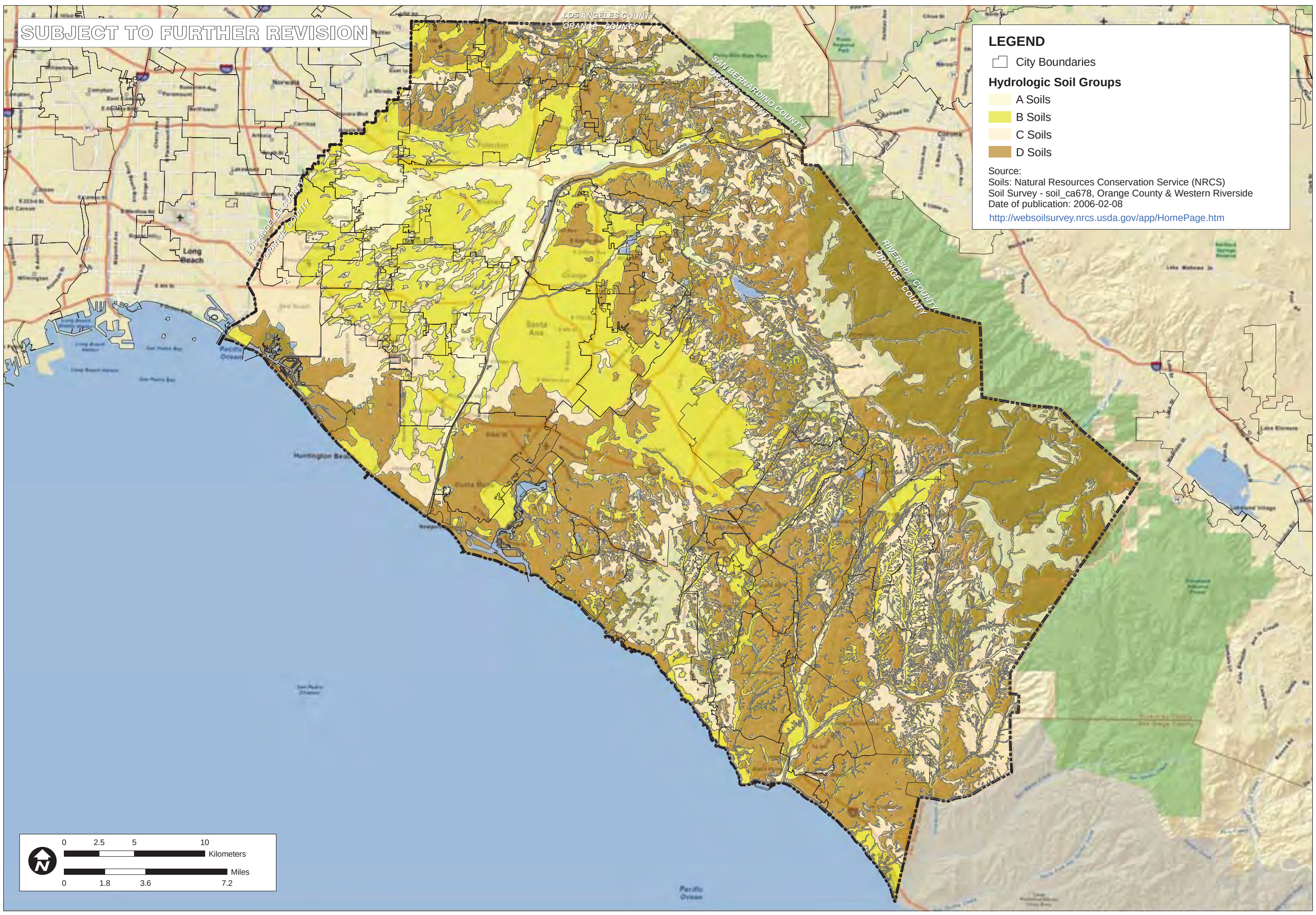
TABLE X.6: HARVESTED WATER DEMAND THRESHOLDS FOR MINIMUM PARTIAL CAPTURE

Design Capture Storm Depth, inches	Wet Season Demand Required for Minimum Partial Capture, gpd per impervious acre
0.60	490
0.65	530
0.70	570
0.75	610
0.80	650
0.85	690
0.90	730
0.95	770
1.00	810

TABLE X.8: MINIMUM IRRIGATED AREA FOR POTENTIAL PARTIAL CAPTURE FEASIBILITY

General Landscape Type	Conservation Design: KL = 0.35			Active Turf Areas: KL = 0.7		
Closest ET Station	Irvine	Santa Ana	Laguna	Irvine	Santa Ana	Laguna
Design Capture Storm Depth, inches	Minimum Required Irrigated Area per Tributary Impervious Acre for Potential Partial Capture, ac/ac					
0.60	0.66	0.68	0.72	0.33	0.34	0.36
0.65	0.72	0.73	0.78	0.36	0.37	0.39
0.70	0.77	0.79	0.84	0.39	0.39	0.42
0.75	0.83	0.84	0.9	0.41	0.42	0.45
0.80	0.88	0.9	0.96	0.44	0.45	0.48
0.85	0.93	0.95	1.02	0.47	0.48	0.51
0.90	0.99	1.01	1.08	0.49	0.51	0.54
0.95	1.04	1.07	1.14	0.52	0.53	0.57
1.00	1.1	1.12	1.2	0.55	0.56	0.6

Source: Technical Guidance Document for the Preparation of Conceptual/Preliminary and/or Project Water Quality Management Plans (WQMPs). March 22, 2011. Appendix X.



TITLE

NRCS HYDROLOGIC SOILS GROUPS

JOB

ORANGE COUNTY INFILTRATION STUDY

ORANGE CO. CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

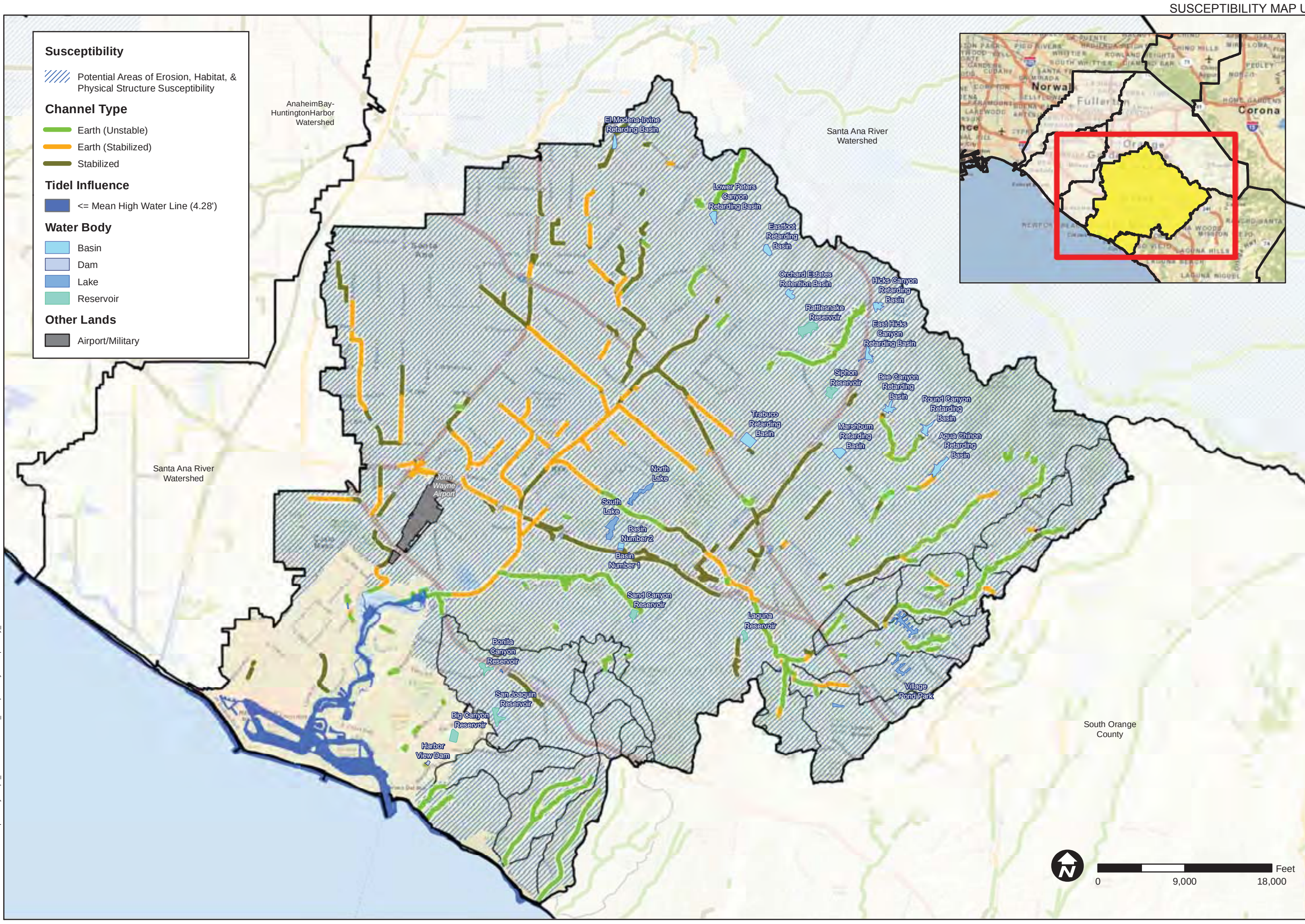
PACE
Advanced Water Engineering

FIGURE

XVI-2a

P:\9526E16-GIS\Mxds\Reports\InfiltrationFeasability_20110215\9526E_FigureXVI-2a_HydroSoils_20110215.mxd

SUSCEPTIBILITY MAP UPATE (FEB 2013)



TITLE
SUSCEPTIBILITY ANALYIS
NEWPORT BAY-
NEWPORT COASTAL STREAMS

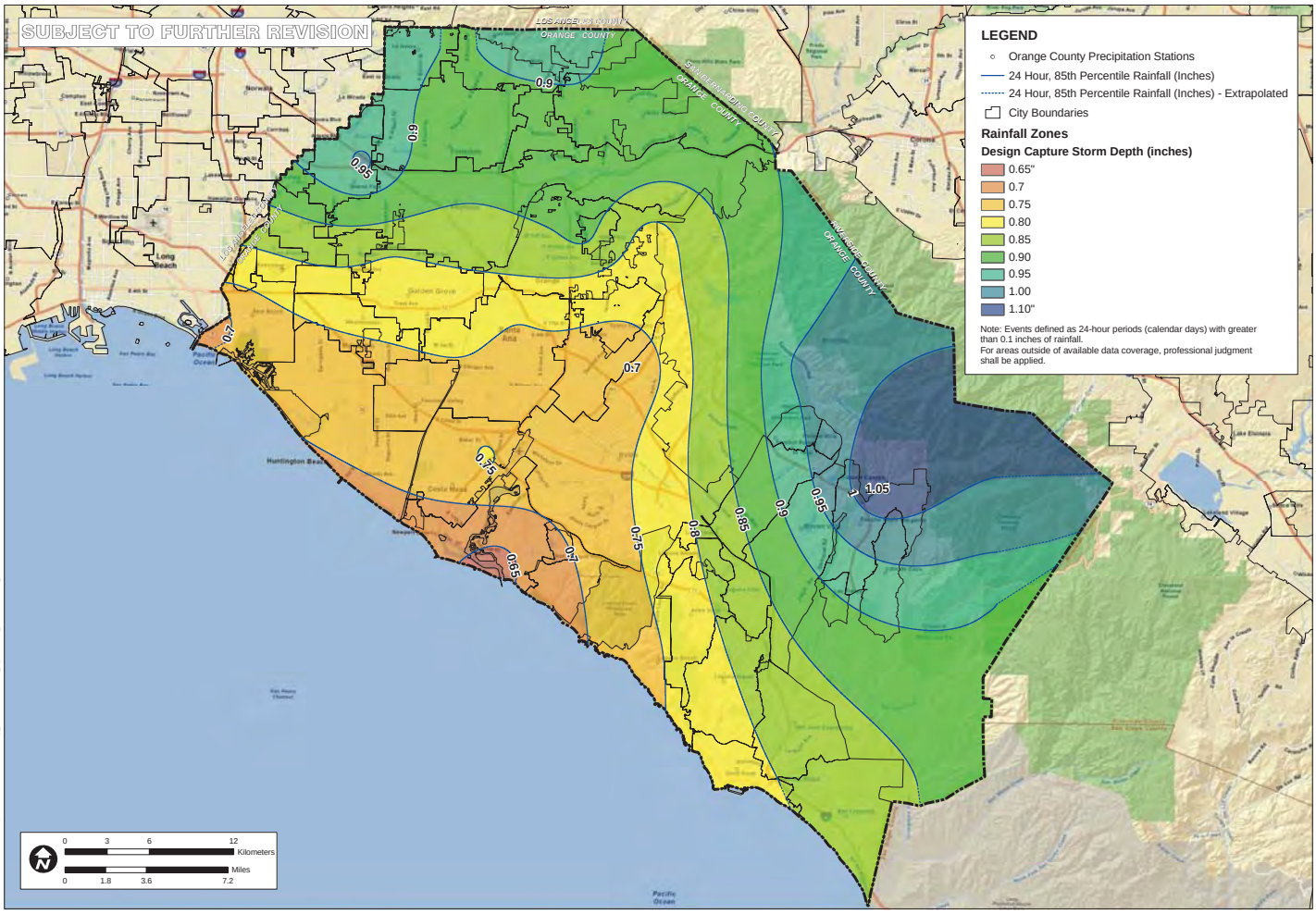
JOB
ORANGE COUNTY
WATERSHED
MASTER PLANNING
ORANGE CO. CA

SCALE	1" = 12000'
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/30/10
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
4

P:\9526E16-GIS\Mxds\SusceptabilityMaps_20100505\9526E_NewportBaySusceptibility_20100430.mxd



RAINFALL ZONES

TITLE

ORANGE COUNTY TECHNICAL GUIDANCE DOCUMENT

JOB

ORANGE CO. CA

SCALE 1" = 1.8 Miles
DESIGNED JN
DRAWING JN
CHECKED MM
DATE 04/22/20
JOB NO. 9526.E

PACE Advanced Water Engineering

FIGURE

XVI-1

P:\9526E\6-GIS\Mxds\Reports\Infiltration\PeakMthy_20110215\9526E_FigureXVI-1_RainfallZones_20110215.mxd

Appendix B

Notice of Transfer of Responsibility

NOTICE OF TRANSFER OF RESPONSIBILITY

WATER QUALITY MANAGEMENT PLAN

Newport Center Condominiums
Parcel 1 P.M.B. 29/34

Submission of this Notice Of Transfer of Responsibility constitutes notice to the City of Newport Beach that responsibility for the Water Quality Management Plan ("WQMP") for the subject property identified below, and implementation of that plan, is being transferred from the Previous Owner (and his/her agent) of the site (or a portion thereof) to the New Owner, as further described below.

I. Previous Owner/ Previous Responsible Party Information

Company/ Individual Name:		Contact Person:	
Street Address:		Title:	
City:	State:	ZIP:	Phone:

II. Information about Site Transferred

Name of Project (if applicable):	
Title of WQMP Applicable to site:	
Street Address of Site (if applicable):	
Planning Area (PA) and/ or Tract Number(s) for Site:	Lot Numbers (if Site is a portion of a tract):
Date WQMP Prepared (and revised if applicable):	

III. New Owner/ New Responsible Party Information

Company/ Individual Name:		Contact Person:	
Street Address:		Title:	
City:	State:	ZIP:	Phone:

IV. Ownership Transfer Information

General Description of Site Transferred to New Owner:	General Description of Portion of Project/ Parcel Subject to WQMP Retained by Owner (if any):

Lot/ Tract Numbers of Site Transferred to New Owner:
Remaining Lot/ Tract Numbers Subject to WQMP Still Held by Owner (if any):
Date of Ownership Transfer:

Note: When the Previous Owner is transferring a Site that is a portion of a larger project/ parcel addressed by the WQMP, as opposed to the entire project/parcel addressed by the WQMP, the General Description of the Site transferred and the remainder of the project/ parcel no transferred shall be set forth as maps attached to this notice. These maps shall show those portions of a project/ parcel addressed by the WQMP that are transferred to the New Owner (the Transferred Site), those portions retained by the Previous Owner, and those portions previously transferred by Previous Owner. Those portions retained by Previous Owner shall be labeled as "Previously Transferred".

V. Purpose of Notice of Transfer

The purposes of this Notice of Transfer of Responsibility are: 1) to track transfer of responsibility for implementation and amendment of the WQMP when property to which the WQMP is transferred from the Previous Owner to the New Owner, and 2) to facilitate notification to a transferee of property subject to a WQMP that such New Order is now the Responsible Party of record for the WQMP for those portions of the site that it owns.

VI. Certifications

A. Previous Owner

I certify under penalty of law that I am no longer the owner of the Transferred Site as described in Section II above. I have provided the New Owner with a copy of the WQMP applicable to the Transferred Site that the New Owner is acquiring from the Previous Owner.

Printed Name of Previous Owner Representative:	Title:
Signature of Previous Owner Representative:	Date:

B. New Owner

I certify under penalty of law that I am the owner of the Transferred Site, as described in Section II above, that I have been provided a copy of the WQMP, and that I have informed myself and understand the New Owner's responsibilities related to the WQMP, its implementation, and Best Management Practices associated with it. I understand that by signing this notice, the New Owner is accepting all ongoing responsibilities for implementation and amendment of the WQMP for the Transferred Site, which the New Owner has acquired from the Previous Owner.

Printed Name of New Owner Representative:	Title:
Signature:	Date:

Appendix C

Educational Materials

Did You Know?

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact, the largest source of water pollution comes from city streets, neighborhoods, construction sites and parking lots. This type of pollution is sometimes called "non-point source" pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff results from rainfall. When rainstorms cause large volumes of water to rinse the urban landscape, picking up pollutants along the way.
- Urban runoff can happen any time of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

Where Does It Go?

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers and cleaners – can be blown or washed into storm drains.
- A little water from a garden hose or rain can also send materials into storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets), water in storm drains is not treated before entering our waterways.

Sources of Non-Point Source Pollution

- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.

The Effect on the Ocean

Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

Stormwater quality management programs have been developed throughout Orange County to educate and encourage the public to protect water quality, monitor runoff in the storm drain system, investigate illegal dumping and maintain storm drains.

Support from Orange County residents and businesses is needed to improve water quality and reduce urban runoff pollution. Proper use and disposal of materials will help stop pollution before it reaches the storm drain and the ocean.

The Ocean Begins at Your Front Door

Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.

Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water:

PROJECT Pollution PREVENTION

Orange County Stormwater Program

Aliso Viejo	(949)	425-2535
Anaheim Public Works Operations	(714)	765-6860
Brea Engineering	(714)	990-7666
Buena Park Public Works	(714)	562-3655
Costa Mesa Public Services	(714)	754-5323
Cypress Public Works	(714)	229-6740
Dana Point Public Works	(949)	248-3584
Fountain Valley Public Works	(714)	593-4441
Fullerton Engineering Dept.	(714)	738-6853
Garden Grove Public Works	(714)	741-5956
Huntington Beach Public Works	(714)	536-5431
Irvine Public Works	(949)	724-6315
La Habra Public Services	(562)	905-9792
La Palma Public Works	(714)	690-3310
Laguna Beach Water Quality	(949)	497-0378
Laguna Hills Public Services	(949)	707-2650
Laguna Niguel Public Works	(949)	362-4337
Laguna Woods Public Works	(949)	639-0500
Lake Forest Public Works	(949)	461-3480
Los Alamitos Community Dev.	(562)	431-3538
Mission Viejo Public Works	(949)	470-3056
Newport Beach, Code & Water Quality Enforcement	(949)	644-3215
Orange Public Works	(714)	532-6480
Placentia Public Works	(714)	993-8245
Rancho Santa Margarita	(949)	635-1800
San Clemente Environmental Programs	(949)	361-6143
San Juan Capistrano Engineering	(949)	234-4413
Santa Ana Public Works	(714)	647-3380
Seal Beach Engineering	(562)	431-2527 x317
Stanton Public Works	(714)	379-9222 x204
Tustin Public Works/Engineering	(714)	573-3150
Villa Park Engineering	(714)	998-1500
Westminster Public Works/Engineering	(714)	898-3311 x446
Yorba Linda Engineering	(714)	961-7138
Orange County Stormwater Program	(877)	897-7455

Orange County 24-Hour
Water Pollution Problem Reporting Hotline
1-877-89-SPILL (1-877-897-7455)

On-line Water Pollution Problem Reporting Form

www.ocwatersheds.com

For More Information

California Environmental Protection Agency
www.calepa.ca.gov

- **Air Resources Board**
  www.arb.ca.gov
- **Department of Pesticide Regulation**
  www.cdpr.ca.gov
- **Department of Toxic Substances Control**
  www.dtsc.ca.gov
- **Integrated Waste Management Board**
  www.ciwmb.ca.gov
- **Office of Environmental Health Hazard Assessment**
  www.oehha.ca.gov
- **State Water Resources Control Board**
  www.waterboards.ca.gov

Earth 911 - Community-Specific Environmental Information 1-800-cleanup or visit www.1800cleanup.org

Health Care Agency's Ocean and Bay Water Closure and Posting Hotline
(714) 433-6400 or visit www.ocbeachinfo.com

Integrated Waste Management Dept. of Orange County (714) 834-6752 or visit www.oclandfills.com for information on household hazardous waste collection centers, recycling centers and solid waste collection

O.C. Agriculture Commissioner
(714) 447-7100 or visit www.ocagcomm.com

Stormwater Best Management Practice Handbook
Visit www.cabmphandbooks.com

UC Master Gardener Hotline
(714) 708-1646 or visit www.uccemg.com

The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications, take questions and exchange ideas among its users about issues and topics related to stormwater and urban runoff and the implementation of program elements. To join the list, please send an email to ocstormwaterinfo-join@list.ocwatersheds.com

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The Ocean Begins at Your Front Door

Never allow pollutants to enter the street, gutter or storm drain!

Follow these simple steps to help reduce water pollution:

Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in the trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste Collection Center (HHWCC).
- For a HHWCC near you call (714) 834-6752 or visit www.oclandfills.com.
- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of it in the trash.

Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate- free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing to drain into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor your vehicles for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.1800cleanup.org.

Pool Maintenance

- Pool and spa water must be dechlorinated and free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- When it is not raining, drain dechlorinated pool and spa water directly into the sanitary sewer.
- Some cities may have ordinances that do not allow pool water to be disposed of in the storm drain. Check with your city.

Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Take unwanted pesticides to a HHWCC to be recycled. For locations and hours of HHWCC, call (714) 834-6752 or visit www.oclandfills.com.

Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle.

Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a HHWCC.

Common Pollutants

Home Maintenance
- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

Lawn and Garden
- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

Automobile
- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust

Do your part to prevent water pollution in our creeks, rivers, bays and ocean.

Clean beaches and healthy creeks, rivers, bays, and ocean are important to Orange County. However, many common household activities can lead to water pollution if you're not careful.

Remember the Water in Your Storm Drain is Not Treated BEFORE It Enters Our Waterways

Litter, oil, chemicals and other substances that are left on your yard or driveway can be blown or washed into storm drains that flow to the ocean. Over-watering your lawn and washing your car can also flush materials into the storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated.

You would never pour soap, fertilizers or oil into the ocean, so don't let them enter streets, gutters or storm drains. Follow the easy tips in this brochure to help prevent water pollution.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline 1-877-89-SPILL** (1-877-897-7455)**.**

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while performing everyday household activities. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

Help Prevent Ocean Pollution:

Household Tips

The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Pollution Prevention

Household Activities

- **Do not rinse spills with water!** Sweep outdoor spills and dispose of in the trash. For wet spills like oil, apply cat litter or another absorbent material, then sweep and bring to a household hazardous waste collection center (HHWCC).
- Securely cover trash cans.
- Take household hazardous waste to a household hazardous waste collection center.
- Store household hazardous waste in closed, labeled containers inside or under a cover.
- Do not hose down your driveway, sidewalk or patio. Sweep up debris and dispose of in trash.
- Always pick up after your pet. Flush waste down the toilet or dispose of in the trash.
- Bathe pets indoors or have them professionally groomed.

Household Hazardous Wastes include:

- ▲ **Batteries**
- ▲ **Paint thinners, paint strippers and removers**
- ▲ **Adhesives**
- ▲ **Drain openers**
- ▲ **Oven cleaners**
- ▲ **Wood and metal cleaners and polishes**
- ▲ **Herbicides and pesticides**
- ▲ **Fungicides/wood preservatives**
- ▲ **Automotive fluids and products**
- ▲ **Grease and rust solvents**
- ▲ **Thermometers and other products containing mercury**
- ▲ **Fluorescent lamps**
- ▲ **Cathode ray tubes, e.g. TVs, computer monitors**
- ▲ **Pool and spa chemicals**

Gardening Activities

- Follow directions on pesticides and fertilizers, (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Water your lawn and garden by hand to control the amount of water you use. Set irrigation systems to reflect seasonal water needs. If water flows off your yard and onto your driveway or sidewalk, your system is over-watering.
- Mulch clippings or leave them on the lawn. If necessary, dispose in a green waste container.
- Cultivate your garden often to control weeds.

Washing and Maintaining Your Car

- Take your car to a commercial car wash whenever possible.
- Choose soaps, cleaners, or detergents labeled "non-toxic," "phosphate free" or "biodegradable." Vegetable and citrus-based products are typically safest for the environment, **but even these should not be allowed into the storm drain.**
- Shake floor mats into a trash can or vacuum to clean.
- Do not use acid-based wheel cleaners and "hose off" engine degreasers at home. They can be used at a commercial facility, which can properly process the washwater.
- **Do not dump washwater onto your driveway, sidewalk, street, gutter or storm drain.** Excess washwater should be disposed of in the sanitary sewers (through a sink, or toilet) or onto an absorbent surface like your lawn.
- Use a nozzle to turn off water when not actively washing down automobile.
- Monitor vehicles for leaks and place pans under leaks. Keep your car well maintained to stop and prevent leaks.
- Use cat litter or other absorbents and sweep to remove any materials deposited by vehicles. Contain sweepings and dispose of at a HHWCC.
- Perform automobile repair and maintenance under a covered area and use drip pans or plastic sheeting to keep spills and waste material from reaching storm drains.
- **Never pour oil or antifreeze in the street, gutter or storm drains.** Recycle these substances at a service station, HHWCC, or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.ciwmb.ca.gov/UsedOil.

For locations and hours of Household Hazardous Waste Collection Centers in Anaheim, Huntington Beach, Irvine and San Juan Capistrano, call (714)834-6752 or visit www.oclandfills.com.

Do your part to prevent water pollution in our creeks, rivers, bays and ocean.

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, not properly disposing of household hazardous waste can lead to water pollution. Batteries, electronics, paint, oil, gardening chemicals, cleaners and other hazardous materials cannot be thrown in the trash. They also must never be poured or thrown into yards, sidewalks, driveways, gutters or streets. Rain or other water could wash the materials into the storm drain and eventually into our waterways and the ocean. In addition, hazardous waste must not be poured in the sanitary sewers (sinks and toilets).

NEVER DISPOSE OF HOUSEHOLD HAZARDOUS WASTE IN THE TRASH, STREET, GUTTER, STORM DRAIN OR SEWER.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To Report Illegal Dumping of Household Hazardous Waste call 1-800-69-TOXIC

To report a spill,
call the
Orange County 24-Hour Water Pollution Problem Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

RECYCLE USED OIL

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Help Prevent Ocean Pollution:

Proper Disposal of Household Hazardous Waste

The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

ORANGE COUNTY

Pollution Prevention

Leftover household products that contain corrosive, toxic, ignitable, or reactive ingredients are considered to be "household hazardous waste" or "HHW." HHW can be found throughout your home, including the bathroom, kitchen, laundry room and garage.

WHEN POSSIBLE, USE NON-HAZARDOUS OR LESS-HAZARDOUS PRODUCTS.

Disposal of HHW down the drain, on the ground, into storm drains, or in the trash is illegal and unsafe.

Proper disposal of HHW is actually easy. Simply drop them off at a Household Hazardous Waste Collection Center (HHWCC) for free disposal and recycling. Many materials including anti-freeze, latex-based paint, motor oil and batteries can be recycled. Some centers have a "Stop & Swap" program that lets you take partially used home, garden, and automobile products free of charge. There are four HHWCCs in Orange County:

Anaheim:.....1071 N. Blue Gum St
Huntington Beach:.....17121 Nichols St
Irvine:.....6411 Oak Canyon
San Juan Capistrano:... 32250 La Pata Ave

Centers are open Tuesday-Saturday, 9 a.m.-3 p.m. Centers are closed on rainy days and major holidays. For more information, call (**714) 834-6752** or visit **www.oclandfills.com.**

Common household hazardous wastes

- Batteries
- Paint and paint products
- Adhesives
- Drain openers
- Household cleaning products
- Wood and metal cleaners and polishes
- Pesticides
- Fungicides/wood preservatives
- Automotive products (antifreeze, motor oil, fluids)
- Grease and rust solvents
- Fluorescent lamps
- Mercury (thermometers & thermostats)
- All forms of electronic waste including computers and microwaves
- Pool & spa chemicals
- Cleaners
- Medications
- Propane (camping & BBQ)
- Mercury-containing lamps
- Television & monitors (CRTs, flatscreens)

Tips for household hazardous waste

- Never dispose of HHW in the trash, street, gutter, storm drain or sewer.
- Keep these materials in closed, labeled containers and store materials indoors or under a cover.
- When possible, use non-hazardous products.
- Reuse products whenever possible or share with family and friends.
- Purchase only as much of a product as you'll need. Empty containers may be disposed of in the trash.
- HHW can be harmful to humans, pets and the environment. Report emergencies to 911.

Did you know that just one quart of oil can pollute 250,000 gallons of water?

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, not properly disposing of used oil can lead to water pollution. If you pour or drain oil onto driveways, sidewalks or streets, it can be washed into the storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering the ocean. Help prevent water pollution by taking your used oil to a used oil collection center.

Included in this brochure is a list of locations that will accept up to five gallons of used motor oil at no cost. Many also accept used oil filters. Please contact the facility before delivering your used oil. This listing of companies is for your reference and does not constitute a recommendation or endorsement of the company.

Please note that used oil filters may not be disposed of with regular household trash. They must be taken to a household hazardous waste collection or recycling center in Anaheim, Huntington Beach, Irvine or San Juan Capistrano. For information about these centers, visit www.oclandfills.com.

Please do not mix your oil with other substances!

For more information, please call the Orange County Stormwater Program at 1-877-89-SPILL (1-877-897-7455) or visit www.watersheds.com.

For information about the proper disposal of household hazardous waste, call the Household Waste Hotline at (714) 834-6752 or visit www.oclandfills.com.

RECYCLE USED OIL

For additional information about the nearest oil recycling center, call the Used Oil Program at 1-800-CLEANUP or visit www.cleanup.org.

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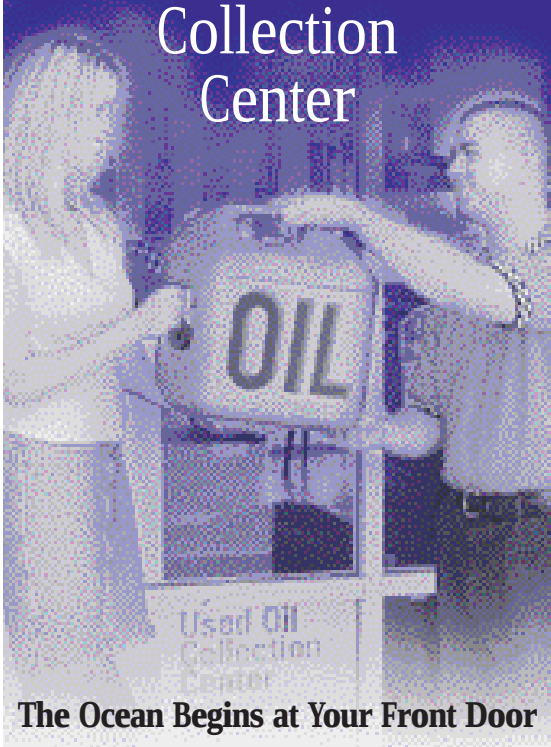
Help Prevent Ocean Pollution:

Recycle at Your Local Used Oil Collection Center



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

CENTRAL COUNTY

Used Oil Collection Centers

Balboa

Hill's Boat Service
814 E Bay Ave., Balboa, CA 92661
(949)675-0740( )
CIWMB#: 30-C-03538

Balboa Island

Island Marine Fuel
406 S Bay Front, Balboa Island, CA 92662
(949)673-1103( )
CIWMB#: 30-C-03728

Corona Del Mar

Corona Del Mar 76
2201 E. Pacific Coast Hwy., Corona Del Mar, CA 92625
(949)673-3320( )
CIWMB#: 30-C-06620

Corona Del Mar Chevron
2546 E. Coast Hwy., Corona Del Mar, CA 92625
(949)495-0774(14)
CIWMB#: 30-C-06424

Mobil (Harbor View)
2500 San Joaquin Hills Rd., Corona Del Mar, CA 92625
(949)640-4759( )
CIWMB#: 30-C-03363

Costa Mesa

AutoZone #5520
744 W. 19th St., Costa Mesa, CA 92627
(901)495-7159( )
CIWMB#: 30-C-05992

Big O Tires #5571
3181 Harbor Blvd., Costa Mesa, CA 92626
(949)443-4155( )
CIWMB#: 30-C-04676

Big O Tires #694
322 E. 17th St., Costa Mesa, CA 92627
(949)642-4131( )
CIWMB#: 30-C-05811

Coast General Performance
2855 Harbor Blvd., Costa Mesa, CA 92626
(714)540-5710( )
CIWMB#: 30-C-05916

Connell Chevrolet
2828 Harbor Blvd., Costa Mesa, CA 92626
(714)546-1200( )
CIWMB#: 30-C-06286

EZ Lube Inc #15
3599 Harbor Blvd., Costa Mesa, CA 92626
(714)966-1647( )
CIWMB#: 30-C-03137

EZ Lube Inc #46
400 E 17th St., Costa Mesa, CA 92627
(714)556-1312( )
CIWMB#: 30-C-05779

EZ Lube Inc. #44
2248 Harbor Blvd., Costa Mesa, CA 92627
(714)556-1312( )
CIWMB#: 30-C-05737

Firestone Store #71T7
475 E 17th St., Costa Mesa, CA 92627
(949)646-2444( )
CIWMB#: 30-C-02120

Jiffy Lube #1969
300 E 17th St., Costa Mesa, CA 92627
(949)548-2505( )
CIWMB#: 30-C-05553

Jiffy Lube #1970
2175 Newport Blvd., Costa Mesa, CA 92627
(949)548-4150( )
CIWMB#: 30-C-05554

Jiffy Lube #607
2255 Fairview Rd., Costa Mesa, CA 92627
(949)650-5823( )
CIWMB#: 30-C-05551

Jiffy Lube #861
375 Bristol St., Costa Mesa, CA 92626
(714)557-5823( )
CIWMB#: 30-C-05552

Kragen Auto Parts #0725
1739 Superior Ave., Costa Mesa, CA 92627
(949)642-3384( )
CIWMB#: 30-C-02624

Kragen Auto Parts #0796
1175 Baker Blvd., Unit E, Costa Mesa, CA 92626
(714)662-2005( )
CIWMB#: 30-C-02664

Nabers Cadillac
2600 Harbor Blvd., Costa Mesa, CA 92626
(714)444-5200( )
CIWMB#: 30-C-05051

Oil Stop Inc.
Oil Stop Inc. Costa Mesa, CA 92626
(714)434-8350( )
CIWMB#: 30-C-06293

Pep Boys #660
2946 Bristol St., Costa Mesa, CA 92626
(714)549-1533( )
CIWMB#: 30-C-03416

Plaza Chevron Service Center
3048 Bristol Costa Mesa, CA 92626
(714)545-4257( )
CIWMB#: 30-C-01123

Scher Tire Inc #15 dba Goodyear Tire
1596 Newport Blvd., Costa Mesa, CA 92627
(949)548-9384( )
CIWMB#: 30-C-03034

Fountain Valley

Firestone Store #7147
17975 Magnolia Ave., Fountain Valley, CA 92708
(714)842-3341( )
CIWMB#: 30-C-01219

Golden Shell
8520 Warner Ave., Fountain Valley, CA 92708
(714)842-7150( )
CIWMB#: 30-P-05002

Kragen Auto Parts #0734
9880 Warner Ave., Fountain Valley, CA 92708
(714)964-6427( )
CIWMB#: 30-C-02609

Kragen Auto Parts #1505
16147 Harbor Blvd., Fountain Valley, CA 92708
(714)531-8525( )
CIWMB#: 30-C-04125

Oil Can Henry's
9525 Warner Ave., Fountain Valley, CA 92708
(714)473-7705( )
CIWMB#: 30-C-05843

Purrfect Auto Service #10
16780 Harbor Blvd., Fountain Valley, CA 92708
(714)839-3899( )
CIWMB#: 30-C-01380

Huntington Beach

AutoZone #5528
6800 Warner Ave., Huntington Beach, CA 92647
(714)891-8211( )
CIWMB#: 30-C-04777

Bella Terra Car Wash
16061 Beach Blvd., Huntington Beach, CA 92647
(714)847-4924( )
CIWMB#: 30-C-06195

Big O Tires #553
19411 Beach Blvd., Huntington Beach, CA 92648
(714)536-7571( )
CIWMB#: 30-C-00970

Econo Lube N' Tune #26
19961 Beach Blvd., Huntington Beach, CA 92648
(714)536-6519( )
CIWMB#: 30-C-06117

Expertec Automotive
7680 Talbert Ave Suite A & B, Huntington Beach, CA 92648
(714)848-9222( )
CIWMB#: 30-C-05914

EZ Lube Inc #16
7361 Edinger Ave., Huntington Beach, CA 92647
(714)899-3600( )
CIWMB#: 30-C-03289

EZ Lube Inc. #79
9862 Adams St., Huntington Beach, CA 92647
(714)556-1312( )
CIWMB#: 30-C-06547

Firestone Store #71T5
16171 Beach Blvd., Huntington Beach, CA 92647
(714)847-6081( )
CIWMB#: 30-C-02118

Huntington Beach Car Wash
18971 Beach Blvd., Huntington Beach, CA 92648
(714)847-4924( )
CIWMB#: 30-C-05303

Jiffy Lube #1857
8971 Warner Ave., Huntington Beach, CA 92647
(714)596-7213( )
CIWMB#: 30-C-05053

Kragen Auto Parts #1468
10072 Adams Ave., Huntington Beach, CA 92646
(714)593-6156( )
CIWMB#: 30-C-04284

Kragen Auto Parts #1511
7171 Warner Ave., Huntington Beach, CA 92647
(714)842-4531( )
CIWMB#: 30-C-04129

Kragen Auto Parts #1633
18888 Beach Blvd., Huntington Beach, CA 92648
(714)965-2353( )
CIWMB#: 30-C-02645

Oilmax 10 Minute Lube/Wash
9862 Adams Ave., Huntington Beach, CA 92646
(714)964-7110( )
CIWMB#: 30-C-03219

Pep Boys #799
19122 Brookhurst St., Huntington Beach, CA 92646
(714)964-0777( )
CIWMB#: 30-C-03439

Quik Change Lube & Oil
5841 Warner Ave., Huntington Beach, CA 92649
(714)840-2331( )
CIWMB#: 30-C-03208

R Kids Tire and Service #6
5062 Warner Ave., Huntington Beach, CA 92647
(714)846-1189( )
CIWMB#: 30-C-05691

Saturn of Huntington Beach
18801 Beach Blvd., Huntington Beach, CA 92648
(714)841-5428( )
CIWMB#: 30-C-05221

USA Express Tire & Service Inc
7232 Edinger Ave., Huntington Beach, CA 92647
(714)842-0717( )
CIWMB#: 30-C-04429

Zito's Auto Care
19002 Magnolia St., Huntington Beach, CA 92646
(714)968-8788( )
CIWMB#: 30-C-03251

Irvine

Firestone Store #71W4
51 Auto Center Dr., Irvine, CA 92618
(949)829-8710( )
CIWMB#: 30-C-03689

Irvine City Auto Parts
14427 Culver Dr., Irvine, CA 92604
(949)551-5588( )
CIWMB#: 30-C-02186

Jiffy Lube #1856 Irvine Spectrum
8777 Irvine Center Dr., Irvine, CA 92618
(949)753-0485( )
CIWMB#: 30-C-06094

Jiffy Lube #1988
3080 Main St., Irvine, CA 92614
(714)961-5491(27)
CIWMB#: 30-C-04450

Kragen Auto Parts #4174
15315 Culver Dr., Ste.#170, Irvine, CA 92604
(602)631-7115( )
CIWMB#: 30-C-06417

Newport Beach

Jiffy Lube #2811
1520 W Coast Hwy., Newport Beach, CA 92663
(949)764-9255( )
CIWMB#: 30-C-05629

Newport Landing Fuel Dock
503 E Edgewater Newport Beach, CA 92661
(949)673-7878( )
CIWMB#: 30-C-03628

Orange

AutoZone #5942
1330 N. Glassell Orange, CA 92867
(714)538-4551( )
CIWMB#: 30-C-04553

Big O Tires #570
1825 E Katella Ave., Orange, CA 92867
(714)538-0016( )
CIWMB#: 30-C-00974

David Wilsons Ford of Orange
1350 W Katella Ave., Orange, CA 92867
(714)633-6731( )
CIWMB#: 30-C-02341

EZ Lube #74
3232 Chapman Ave. #E, Orange, CA 92869
(714)556-1312(106)
CIWMB#: 30-C-06627

Firestone Store #7185
1690 N Tustin Ave., Orange, CA 92867
(714)282-8144( )
CIWMB#: 30-C-0122

Jiffy Lube #1457
433 W. Katella Ave., Orange, CA 92867
(714)720-5757( )
CIWMB#: 30-C-06280

Kragen Auto Parts #1764
910 Tustin St., Orange, CA 92867
(714)771-3000( )
CIWMB#: 30-C-02625

Managed Mobile, Inc.
1030 N Batavia St., #B, Orange, CA 92867
(714)400-0250( )
CIWMB#: 30-C-05776

Pep Boys #806
215 E Katella Ave., Orange, CA 92867
(714)997-1540( )
CIWMB#: 30-C-01759

Santiago Hills Car Care
8544 East Chapman Ave., Orange, CA 92869
(714)919-1060( )
CIWMB#: 30-C-05622

Scher Tire #33
1821 E. Katella Ave., Orange, CA 92867
(909)343-3100( )
CIWMB#: 30-C-06324

Tabassi Shell Service Station
830 E Katella Ave., Orange, CA 92867
(714)771-6990( )
CIWMB#: 30-C-00552

The Tune-up Center
193 S Main St., Orange, CA 92868
(714)633-1876( )
CIWMB#: 30-C-02091

Tony's Fuel and Towing
1650 W La Veta Ave., Orange, CA 92868
(714)953-7676( )
CIWMB#: 30-C-00868

Truck Lubrication Company
143 S. Pixley Orange, CA 92868
(714)997-7730( )
CIWMB#: 30-C-06001

Santa Ana

All Phase Environmental
910 E. Fourth St., Santa Ana, CA 92701
(714)731-5995( )
CIWMB#: 30-C-06116

Archie's Tire & Towing
4518 Westminster Ave., Santa Ana, CA 92703
(714)636-4518( )
CIWMB#: 30-C-02058

AutoZone #3320
2007 S. Main St., Santa Ana, CA 92707
(901)495-7217( )
CIWMB#: 30-C-06508

AutoZone #5232
430 W 17th Santa Ana, CA 92706
(714)547-7003( )
CIWMB#: 30-C-04609

AutoZone #5538
1101 S Bristol Santa Ana, CA 92704
(714)241-0335( )
CIWMB#: 30-C-00829

Big O Tires
1211 W. Warner Ave., Santa Ana, CA 92707
(714)540-8646( )
CIWMB#: 30-C-04679

Big O Tires #712
1302 E. 17th St., Santa Ana, CA 92705
(714)541-6811( )
CIWMB#: 30-C-05813

Firestone Store #7175
3733 S Bristol Santa Ana, CA 92704
(714)549-4015( )
CIWMB#: 30-C-01223

Firestone Store #71TA
101 S Main St., Santa Ana, CA 92701
(714)542-8857( )
CIWMB#: 30-C-02123

Firestone Store #71W6
2005 N Tustin Ave., Ste A, Santa Ana, CA 92705
(714)541-7977( )
CIWMB#: 30-C-03688

Guaranty Chevrolet Motors Inc.
711 E 17th St., Santa Ana, CA 92701
(714)973-1711(277)
CIWMB#: 30-C-06506

Jiffy Lube #1303
2025 N. Tustin Santa Ana, CA 92701
(714)720-5757( )
CIWMB#: 30-C-06283

John's Mobil
1465 S Main St., Santa Ana, CA 92707
(714)835-3266( )
CIWMB#: 30-C-00578

Kragen Auto Parts #0736
1302 E 17th St., Santa Ana, CA 92705
(714)953-6061( )
CIWMB#: 30-C-02610

Kragen Auto Parts #1253
1400 W Edinger Ave., Santa Ana, CA 92704
(714)754-1432( )
CIWMB#: 30-C-02627

Kragen Auto Parts #1376
521 W 17th St., Santa Ana, CA 92706
(714)543-4492( )
CIWMB#: 30-C-03901

Kragen Auto Parts #1516
2337 S Bristol Ave., Santa Ana, CA 92704
(714)557-0787( )
CIWMB#: 30-C-04106

Kragen Auto Parts #1648
1015 S Main St., Santa Ana, CA 92701
(714)568-1570( )
CIWMB#: 30-C-05664

Pep Boys #609
120 E 1st St., Santa Ana, CA 92701
(714)547-7477( )
CIWMB#: 30-C-01738

Pep Boys #802
1107 S Harbor Blvd., Santa Ana, CA 92704
(714)775-0828( )
CIWMB#: 30-C-01739

Purrfect Auto Service
2519 S Main St., Santa Ana, CA 92707
(714)549-7900( )
CIWMB#: 30-C-02085

Saturn of Santa Ana
1350 Auto Mall Dr., Santa Ana, CA 92705
(714)648-2444( )
CIWMB#: 30-C-05222

Scher Tire #28
1805 N Grand Ave., Santa Ana, CA 92705
(714)558-8644( )
CIWMB#: 30-C-03225

Tustin

Big O Tires #555
131 E 1st St., Tustin, CA 92780
(714)544-9431( )
CIWMB#: 30-C-00972

EZ Lube #42
12972 Newport Ave., Tustin, CA 92780
(714)556-1312( )
CIWMB#: 30-C-06408

Jiffy Lube #1406
3087 Edinger Ave., Tustin, CA 92780
(949)651-8814( )
CIWMB#: 30-C-03778

Kragen Auto Parts #1533
502 B E 1st St., Tustin, CA 92780
(714)544-9249( )
CIWMB#: 30-C-04128

Scher Tire Inc #17 dba Goodyear Tire
14511 Redhill Ave., Tustin, CA 92780
(714)832-6011( )
CIWMB#: 30-C-03035

Villa Park

Phil's Villa Park 76
17771 Santiago Blvd., Villa Park, CA 92861
(714)637-0854( )
CIWMB#: 30-C-06579

This information was provided by the County of Orange Integrated Waste Management Department and the California Integrated Waste Management Board (CIWMB).

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities such as pest control can lead to water pollution if you're not careful. Pesticide treatments must be planned and applied properly to ensure that pesticides do not enter the street, gutter or storm drain. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pesticides into the ocean, so don't let it enter the storm drains. Pesticides can cause significant damage to our environment if used improperly. If you are thinking of using a pesticide to control a pest, there are some important things to consider.

For more information,
please call
University of California Cooperative
Extension Master Gardeners at
(714) 708-1646
or visit these Web sites:
www.uccemg.org
www.ipm.ucdavis.edu

For instructions on collecting a specimen sample visit the Orange County Agriculture Commissioner's website at:
http://www.ocagcomm.com/ser_lab.asp

To report a spill, call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
at 1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

Information From:
Cheryl Wilen, Area IPM Advisor; Darren Haver, Watershed Management Advisor; Mary Louise Flint, IPM Education and Publication Director; Pamela M. Geisel, Environmental Horticulture Advisor; Carolyn L. Unruh, University of California Cooperative Extension staff writer. Photos courtesy of the UC Statewide IPM Program and Darren Haver.

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Help Prevent Ocean Pollution:

Responsible Pest Control

Tips for Pest Control

Key Steps to Follow:

Step 1: **Correctly identify the pest (insect, weed, rodent, or disease) and verify that it is actually causing the problem.**

Three life stages of the common lady beetle, a beneficial insect.

This is important because beneficial insects are often mistaken for pests and sprayed with pesticides needlessly.

Consult with a Certified Nursery Professional at a local nursery or garden center or send a sample of the pest to the Orange County Agricultural Commissioner's Office.

Determine if the pest is still present – even though you see damage, the pest may have left.

Step 2: **Determine how many pests are present and causing damage.**

Small pest populations may be controlled more safely using non-pesticide techniques. These include removing food sources, washing off leaves with a strong stream of water, blocking entry into the home using caulking and replacing problem plants with ones less susceptible to pests.

Integrated Pest Management (IPM) usually combines several least toxic pest control methods for long-term prevention and management of pest problems without harming you, your family, or the environment.

UC CE University of California Cooperative Extension

Step 3: **If a pesticide must be used, choose the least toxic chemical.**

Obtain information on the least toxic pesticides that are effective at controlling the target pest from the UC Statewide Integrated Pest Management (IPM) Program's Web site at www.ipm.ucdavis.edu.

Seek out the assistance of a Certified Nursery Professional at a local nursery or garden center when selecting a pesticide. Purchase the smallest amount of pesticide available.

Apply the pesticide to the pest during its most vulnerable life stage. This information can be found on the pesticide label.

Step 4: **Wear appropriate protective clothing.**

Follow pesticide labels regarding specific types of protective equipment you should wear. Protective clothing should always be washed separately from other clothing.

Step 5: **Continuously monitor external conditions when applying pesticides such as weather, irrigation, and the presence of children and animals.**

Never apply pesticides when rain is predicted within the next 48 hours. Also, do not water after applying pesticides unless the directions say it is necessary.

Apply pesticides when the air is still; breezy conditions may cause the spray or dust to drift away from your targeted area.

In case of an emergency call 911 and/or the regional poison control number at (714) 634-5988 or (800) 544-4404 (CA only).

For general questions you may also visit www.calpoison.org.

Step 6: **In the event of accidental spills, sweep up or use an absorbent agent to remove any excess pesticides. Avoid the use of water.**

Be prepared. Have a broom, dust pan, or dry absorbent material, such as cat litter, newspapers or paper towels, ready to assist in cleaning up spills.

Contain and clean up the spill right away. Place contaminated materials in a doubled plastic bag. All materials used to clean up the spill should be properly disposed of according to your local Household Hazardous Waste Disposal site.

Step 7: **Properly store and dispose of unused pesticides.**

Purchase Ready-To-Use (RTU) products to avoid storing large concentrated quantities of pesticides.

Store unused chemicals in a locked cabinet.

Unused pesticide chemicals may be disposed of at a Household Hazardous Waste Collection Center.

Empty pesticide containers should be triple rinsed prior to disposing of them in the trash.

Household Hazardous Waste Collection Center
(714) 834-6752
www.oclandfills.com

PROJECT Pollution PREVENTION

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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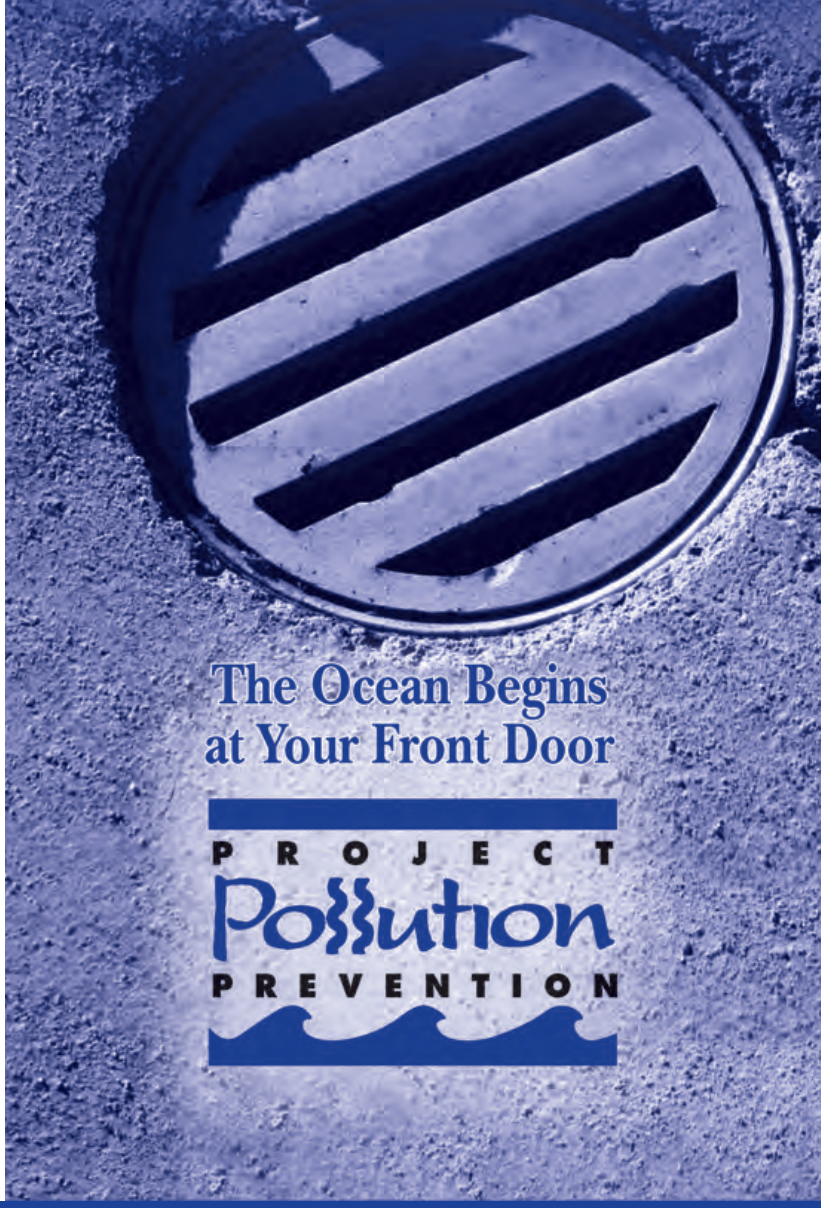
Help Prevent Ocean Pollution:

Tips for Residential Pool, Landscape and Hardscape Drains



The Ocean Begins at Your Front Door

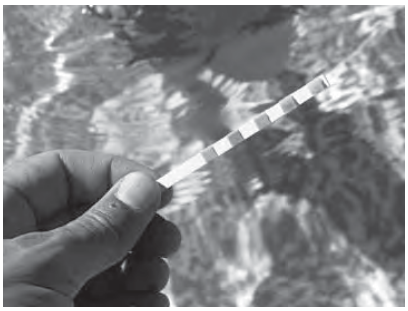
PROJECT Pollution PREVENTION

Tips for Residential Pool, Landscape and Hardscape Drains

Pool Maintenance

All pool water discharged to the curb, gutter or permitted pool drain from your property must meet the following water quality criteria:

- The residual chlorine does not exceed 0.1 mg/L (parts per million).
- The pH is between 6.5 and 8.5.
- The water is free of any unusual coloration.
- There is no discharge of filter media or acid cleaning wastes.



Some cities have ordinances that do not allow pool water to be discharged to the storm drain. Check with your city.

Landscape and Hardscape Drains

The following recommendations will help reduce or prevent pollutants from your landscape and hardscape drains from entering the street, gutter or storm drain. Unlike water that enters the sewer (from sinks and toilets), water that enters a landscape or hardscape drain is not treated before entering our creeks, rivers, bays and ocean.

Household Activities

- Do not rinse spills of materials or chemicals to any drain.
- Use dry cleanup methods such as applying cat litter or another absorbent material, then sweep it up and dispose of it in the trash. If the material is hazardous, dispose of it at a Household Hazardous Waste Collection Center (HHWCC). For locations, call **(714) 834-6752** or visit **www.oclandfills.com**.
- Do not hose down your driveways, sidewalks or patios to your landscape or hardscape drain. Sweep up debris and dispose of it in the trash.
- Always pick up after your pet. Flush waste down the toilet or dispose of it in the trash.
- Do not store items such as cleaners, batteries, automotive fluids, paint products, TVs, or computer monitors uncovered outdoors. Take them to a HHWCC for disposal.

Yard Maintenance

- Do not overwater. Water by hand or set automated irrigation systems to reflect seasonal water needs.
- Follow directions on pesticides and fertilizers (measure, do not estimate amounts) and do not use if rain is predicted within 48 hours.
- Cultivate your garden often to control weeds and reduce the need to use chemicals.

Vehicle Maintenance

- Never pour oil or antifreeze down your landscape or hardscape drain. Recycle these substances at a service station, a waste collection center or used oil recycling center. For locations, contact the Used Oil Program at **1-800-CLEANUP** or visit **www.CLEANUP.org**.
- Whenever possible, take your vehicle to a commercial car wash.
- If you do wash your vehicle at home, do not allow the washwater to go down your landscape or hardscape drain. Instead, dispose of it in the sanitary sewer (a sink or toilet) or onto an absorbent surface such as your lawn.
- Use a spray nozzle that will shut off the water when not in use.

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour gardening products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

UCCE Master Gardener Hotline:
(714) 708-1646

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while landscaping or gardening. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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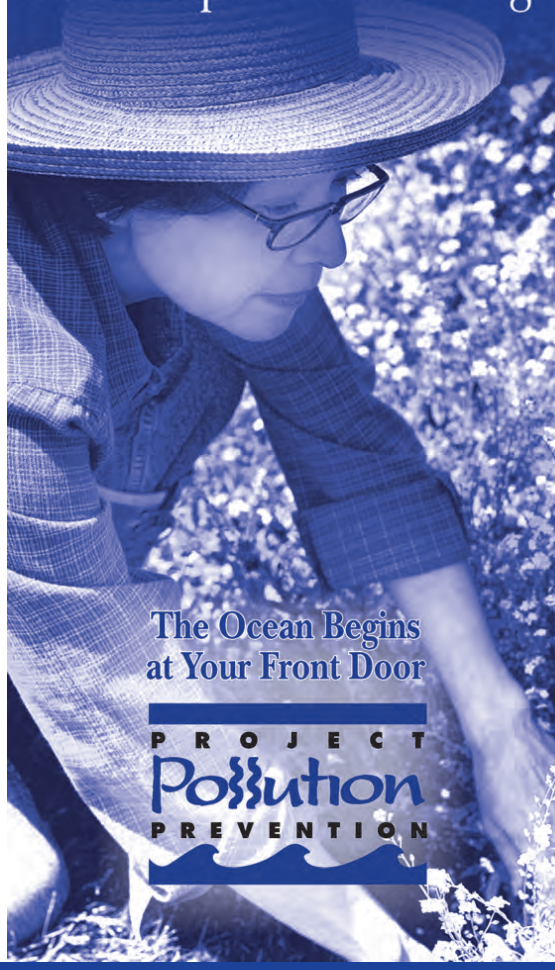
Help Prevent Ocean Pollution:

Tips for Landscape & Gardening



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Landscape & Gardening

Never allow gardening products or polluted water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.
- Plant native vegetation to reduce the amount of water, fertilizers, and pesticide applied to the landscape.

- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.

- Use slow-release fertilizers to minimize leaching, and use organic fertilizers.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.

- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting. For more information, visit **www.ipm.ucdavis.edu**.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. Locations are provided below.

Household Hazardous Waste Collection Centers

Anaheim:	1071 N. Blue Gum St.
Huntington Beach:	17121 Nichols St.
Irvine:	6411 Oak Canyon
San Juan Capistrano:	32250 La Pata Ave.

For more information, call (714) 834-6752 or visit www.oclandfills.com

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Pet waste and pet care products can be washed into the storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never put pet waste or pet care products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **1-877-89-SPILL** (1-877-897-7455)
or visit
www.ocwatersheds.com

To report a spill,
call the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
1-877-89-SPILL (1-877-897-7455)**.**

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while caring for your pet. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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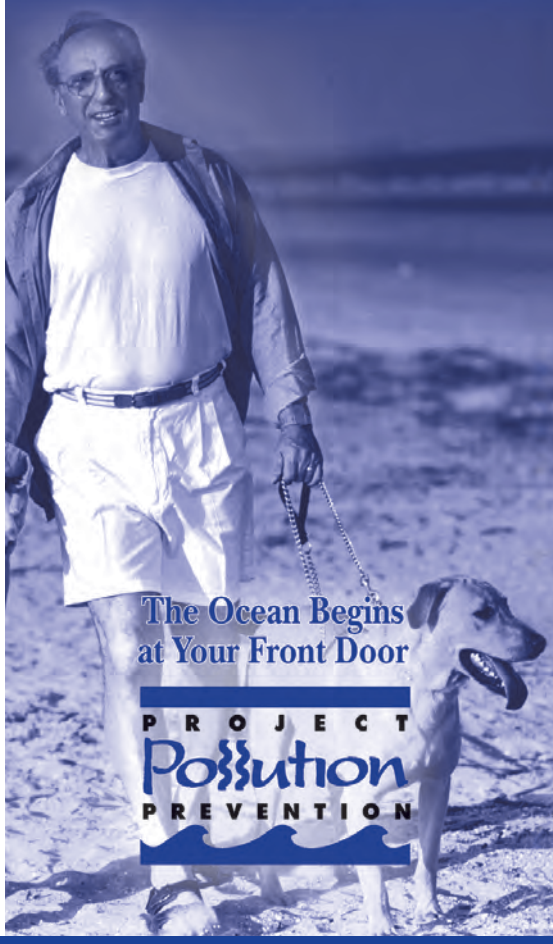
Help Prevent Ocean Pollution:

Tips for Pet Care



Tips for Pet Care

Never let any pet care products or washwater run off your yard and into the street, gutter or storm drain.

Washing Your Pets

Even biodegradable soaps and shampoos can be harmful to marine life and the environment.

- If possible, bathe your pets indoors using less-toxic shampoos or have your pet professionally groomed. Follow instructions on the products and clean up spills.

- If you bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from running into the street, gutter or storm drain.

Flea Control

- Consider using oral or topical flea control products.

- If you use flea control products such as shampoos, sprays or collars, make sure to dispose of any unused products at a Household Hazardous Waste Collection Center. For location information, call **(714) 834-6752**.

Why You Should Pick Up After Your Pet

It's the law! Every city has an ordinance requiring you to pick up after your pet. Besides being a nuisance, pet waste can lead to water pollution, even if you live inland. During rainfall, pet waste left outdoors can wash into storm drains. This waste flows directly into our waterways and the ocean where it can harm human health, marine life and the environment.

As it decomposes, pet waste demands a high level of oxygen from water. This decomposition can contribute to killing marine life by reducing the amount of dissolved oxygen available to them.

Have fun with your pets, but please be a responsible pet owner by taking care of them and the environment.

- Take a bag with you on walks to pick up after your pet.

- Dispose of the waste in the trash or in a toilet.

PROJECT Pollution PREVENTION

Clean beaches and healthy creeks, rivers, bays, and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Swimming pools and spas are common in Orange County, but they must be maintained properly to guarantee that chemicals aren't allowed to enter the street, where they can flow into the storm drains and then into the waterways. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never dump pool chemicals into the ocean, so don't let it enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com**

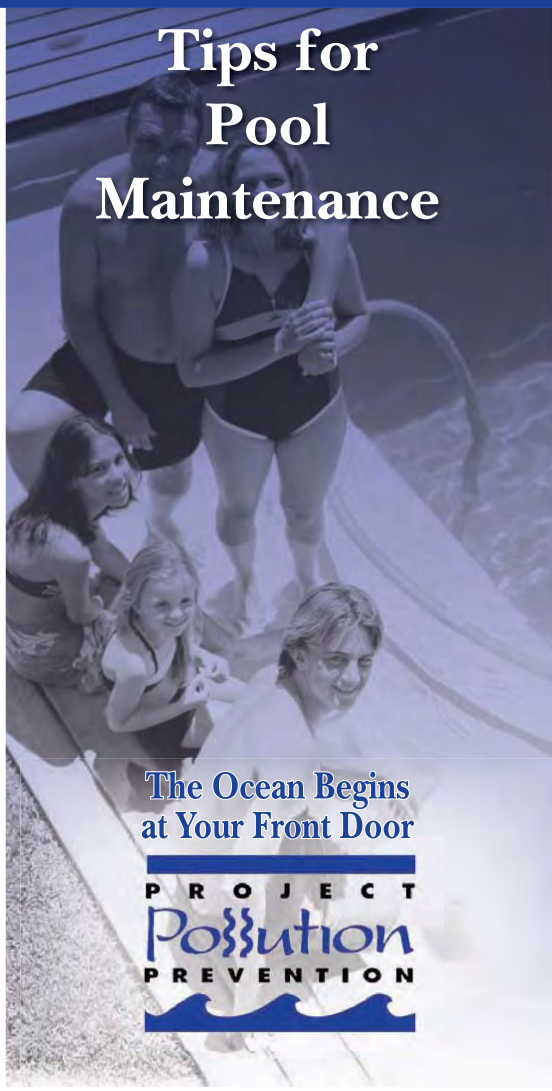
To report a spill, call the **Orange County 24-Hour Water Pollution Reporting Hotline 1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while maintaining your pool. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

Help Prevent Ocean Pollution:

Tips for Pool Maintenance



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Pool Maintenance

Many pools are plumbed to allow the pool to drain directly to the sanitary sewer. If yours is not, follow these instructions for disposing of pool and spa water.

Acceptable and Preferred Method of Disposal

When you cannot dispose of pool water in the sanitary sewer, the release of dechlorinated swimming pool water is allowed if all of these tips are followed:

- The residual chlorine does not exceed 0.1 mg/l (parts per million).
- The pH is between 6.5 and 8.5.
- The water is free of any unusual coloration, dirt or algae.
- There is no discharge of filter media.
- There is no discharge of acid cleaning wastes.
- Some cities may have ordinances that do not allow pool water to be disposed into a storm drain. Check with your city.

How to Know if You're Following the Standards

You can find out how much chlorine is in your water by using a pool testing kit. Excess chlorine can be removed by discontinuing the use of chlorine for a few days prior to discharge or by purchasing dechlorinating chemicals from a local pool supply company. Always make sure to follow the instructions that come with any products you use.

Doing Your Part

By complying with these guidelines, you will make a significant contribution toward keeping pollutants out of Orange County's creeks, streams, rivers, bays and the ocean. This helps to protect organisms that are sensitive to pool chemicals, and helps to maintain the health of our environment.

PROJECT Pollution PREVENTION

DF-1
DRAINAGE FACILITY OPERATION AND MAINTENANCE

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and storm water that may contain certain pollutants. Consequently these pollutants may accumulate in the system and must be removed periodically. In addition, the systems must also be maintained to function properly hydraulically to avoid flooding. Maintaining the system may involve the following activities:

1. Inspection and Cleaning of Stormwater Conveyance Structures
2. Controlling Illicit Connections and Discharges
3. Controlling Illegal Dumping

This list of Model Maintenance Procedures can be utilized as an inspection checklist to determine where better compliance with Designated Minimum Best Management Practices (notated with checkmarks and capital letters) is needed, and to recommend Additional Best Management Practices (notated with bullet points and lower case letters) that may be applicable under certain circumstances, especially where there are certain Pollutant Constituents of Concern. BMPs applicable to certain constituents are notated as:

Bacteria (BACT) *Sediment (SED)* *Nutrients (NUT)* *Oil and Grease (O&G)* *Pesticides (PEST)*
OtherToxic Compounds (TOX) *Trash (TRASH)* *Hydrological Impacts (HYD)* *Any/All or General (ANY)*

Program/Facility Being Inspected: _____

Date: _____ Inspector Name: _____

When completed, the checklist should be attached to the General Inspection Form Cover Sheet and copies should be provided to the Supervisor of the Facility/Program being inspected.

MAINTENANCE PROCEDURES:

1. Inspection and Cleaning of Drainage Facilities

Unsatisfactory	OK	General Guidelines
☐ _____	☐	T 1A. Annually inspect and clean drainage structures as needed.
☐ _____	☐	T 1B. Maintain appropriate records of cleaning and inspections.
☐ _____	☐	T 1C. Properly dispose of removed materials at a landfill or recycling facility.
☐ _____	☐	T 1D. Conduct intermittent supplemental visual inspections during the wet season to determine if there are problem inlets where sediment/trash or other pollutants accumulate, and provide for additional cleanouts as appropriate.
☐ _____	☐	T 1E. Prevent or clean up any discharges that may occur during the course of maintenance and cleaning procedures.
☐ _____	☐	T 1F. Verify that appropriate employees or subcontractors are trained in proper conductance of maintenance activities, including record keeping and disposal.
☐ _____	☐	T 1G. Annually inspect and clean v-ditches as needed, prior to the wet season. On shrub-covered slopes, vegetative debris may be placed on the downhill side of the ditch. Trash should be bagged and disposed at a landfill.

Unsatisfactory	OK
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☐	☐
☐	☐

General Guidelines (cont.)

- 1a. Remove trash or debris as needed from open channels. It should be noted that major vegetative debris removal may require other regulatory permits prior to completing the work. (TRASH)
- 1b. Consider retrofitting energy dissipaters (e.g. riprap) below culvert outfalls to minimize potential for erosion. (SED)
- 1c. Repair any v-ditches that have cracked or displaced in a manner that accelerates erosion. (SED)
- 1d. If suspicious conditions appear to exist, test selected samples of the removed wastes for compliance with hazardous waste regulations prior to disposal. (TOX)
- 1e. Consider more frequent regular cleaning of selected drainage structures to help address ongoing specific impairments. (SED, BACT, NUT, TRASH)
- 1f. Consider structural retrofits to the MS4 to help address ongoing specific impairments (SED, BACT, NUT, TRASH, O&G)
- 1g. Consider cleaning out pipes at gradient breaks or other in-pipe debris accumulation points as identified/needed. (ANY, BACT, NUT, TRASH)

Storm Drain Flushing

- 1h. Flushing of storm drains or storm drain inlets should only be done when critically necessary and no other solution is practical. (SED, BACT, TRASH).
- 1i. If flushed, to the extent practical the material should be collected (vacuumed), treated with an appropriate filtering device to remove sand and debris and disposed of properly. (SED)

Waste Management

- 1H. Store wastes collected from cleaning activities of the drainage facilities in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- 1j. Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device to remove the sand and debris prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not permitted, water should be pumped or vacuumed to a tank and properly disposed of. Do not dewater near a storm drain or stream. (SED, TRASH)
- 1k. Provide for laboratory analysis of at least one randomly collected sediment (less the debris) sample per year from the storm drain inlet leaning program to ensure that it does not meet the EPA criteria for hazardous waste. If the sample is determined to be hazardous, the sediment must be disposed of as hazardous waste and the source should be investigated. (TOX).

2. Controlling Illicit Connections and Discharges

Unsatisfactory	OK	General Guidelines
☐	☐	T 2A. Report prohibited discharges such as dumping, paint spills, abandoned oil containers, etc. observed during the course of normal daily activities so they can be investigated, contained, and cleaned up.
☐	☐	T 2B. Where field observations and/or monitoring data indicate significant problems, conduct field investigations to detect and eliminate existing illicit connections and improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)). (Refer to Appendices A-10 and A-11.)
☐	☐	T 2C. Report all observed illicit connections and discharges to the 24-hour water pollution problem reporting hotline (714) 567-6363.
☐	☐	T 2D. Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.
		Storm Drain Stenciling ("No Dumping—Drains to Ocean")
☐	☐	T 2E. Implement and maintain a storm drain stenciling program.
☐	☐	• 2a. Consider adding the hotline number to the storm drain stencils (BACT, TOX, TRASH).

3. Controlling Illegal Dumping

		Field Investigation
☐	☐	T 3A. Report prohibited discharges such as dumpings observed during the course of normal daily activities so they can be investigated, contained and cleaned up.
☐	☐	T 3B. Conduct field investigations to detect and eliminate improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)).
☐	☐	T 3C. Report all observed illegal dumping to the 24-hour water pollution problem reporting hotline (714) 567-6363.
☐	☐	T 3D. Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.
☐	☐	T 3E. If perpetrator can be identified, take appropriate enforcement action.
☐	☐	• 3a. Consider posting "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs could also indicate fines and penalties for illegal dumping. (ANY)

Unsatisfactory	OK	Training/Education/Outreach
☐ _____	☐	T 3F. Verify that appropriate employees and subcontractors are trained to recognize and report illegal dumping.
☐ _____	☐	T 3G. Encourage public reporting of illegal dumping by advertising the 24-hour water pollution problem reporting hotline (714) 567-6363.
☐ _____	☐	• 3b. Take extra steps to educate the public in neighborhoods where illegal dumping has occurred to inform them why illegal dumping is a problem, and that illegal dumping carries a significant financial penalty. (ANY)

LIMITATIONS:

Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

R-4
HOME AND GARDEN CARE ACTIVITIES

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	
Bacteria	x
Foaming Agents	x
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	
Other	x

HOME CARE

Many hazardous materials may be used in and around residences during routine maintenance activities (such as: oils, paints, cleaners, bleaches, pesticides, glues, solvents, and other products). Improper or excessive use of these products can increase the potential for pollutants to be transported to the storm drain by runoff. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before conducting home care activities. Remember - The ocean starts at your front door.

Required Activities

- Clean out painting equipment in an area where the waste can be contained and properly disposed of (latex – sewer, oil based – household hazardous waste center).
- Rinse off cement mixers and cement laden tools in a contained washout area. Dispose of dried concrete waste in household trash.
- If safe, contain, clean up, and properly dispose all household hazardous waste spills. If an unsafe condition exists, call 911 to activate the proper response team.
- Household hazardous materials must be stored indoors or under cover, and in closed and labeled containers. Dispose of them at a household hazardous waste center.
- Household wash waters (e.g. washer machine effluent, mop water, etc.) must be disposed of in the sanitary sewer.
- Pool and spa water may be discharged to the storm drain if residual chlorine is less than 0.1 mg/L, the pH is between 6.5 and 8.5, and the water is free from any unusual coloration. (Call 714-834-6107 to obtain information on a pool drain permit). Pool filter media must be contained and disposed of properly.

Recommended Activities

- Only purchase the types and amounts of materials needed.
- Share unused portions of products with neighbors or community programs (latex paint)

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com

GARDEN CARE

Garden activities may contribute pollutants via soil erosion, green waste, fertilizer and pesticide use. Plant and garden care activities such as landscape maintenance, fertilization, and pesticide application have the potential to discharge significant quantities of pollutants to the storm drain system. Nonvegetated surfaces may allow for significant erosion leading to high sediment loads. Other pollutants such as pesticides may adsorb onto the soil particles and be transported off site. Excess fertilizer and pesticide pollutants from over application may be carried to the storm drain by dissolving in irrigation runoff or rainwater. Green wastes may also contain organic matter and may have adsorbed fertilizers and pesticides.

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	
Metals	
Hydrocarbons	
Hazardous Materials	
Pesticides and Herbicides	x
Other	x

Excessive irrigation is often the most significant factor in home and garden care activities. Pollutants may dissolve in irrigation water and then be transported to the storm drain, or particles and materials coated with fertilizers and pesticides may be suspended in the irrigation flow and carried to the storm drain. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before conducting garden care activities. Remember - The ocean starts at your front door.

Required Activities

- Irrigation systems must be properly adjusted to reflect seasonal water needs.
- Minimize the use of pesticides and fertilizers. Read the labels and follow directions to avoid improper use. Do not apply chemicals if it is windy or about to rain.
- Properly clean up and dispose of spills of gardening chemicals, fertilizes, or soils. If possible, return the spilled material to the container for future use.
- Lawn and garden care products must be stored in closed labeled containers, in covered areas, or off-ground and under protective tarps.
- Household hazardous waste must be properly disposed at a household hazardous waste center.
- Cover nonvegetated surfaces to prevent erosion.

Recommended Activities

- Utilize xeroscaping and use of drought and insect resistant landscaping.
- Cultivate garden often to control weeds
- Use integrated pest management (IPM). Planting pest repelling plants (e.g. Marigolds) or using pest eating insects (e.g. ladybugs) may reduce the need for pesticides.
- Do not leave food (human or pet) outside overnight
- Remove fruit and garden waste

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com

R-5
DISPOSAL OF PET WASTES

Pet wastes left in the environment may introduce solids, bacteria, and nutrients to the storm drain. The type and quantity of waste will dictate the proper disposal method. Small quantities of waste are best disposed with regular trash or flushed down a toilet. Large quantities of wastes from herbivore animals may be composted for subsequent use or disposal to landfill.

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	
Metals	
Hydrocarbons	
Hazardous Materials	
Pesticides and Herbicides	
Other	

Pick up after your pet! It's as easy as 1-2-3. 1) Bring a bag. 2) Clean it up. 3) Dispose of it properly (toilet or trash). The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before you dispose of any pet wastes. Remember - The ocean starts at your front door.

Required Activities

- All pet wastes must be picked up and properly disposed of. Pet waste should be disposed of in the regular trash, flushed down a toilet, or composted as type and quantities dictate.
- Properly dispose of unused flea control products (shampoo, sprays, or collars).
- Manure produced by livestock in uncovered areas should be removed at least daily for composting, or storage in water-tight container prior to disposal. Never hose down to stream or storm drain. Composting or storage areas should be configured and maintained so as not to allow contact with runoff. Compost may be donated to greenhouses, nurseries, and botanical parks. Topsoil companies and composting centers may also accept composted manure.
- Line waste pits or trenches with an impermeable layer, such as thick plastic sheeting.
- When possible, allow wash water to infiltrate into the ground, or collect in an area that is routed to the sanitary sewer.
- Confine livestock in fenced in areas except during exercise and grazing times. Restrict animal access to creeks and streams, preferably by fencing.

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com

- Install gutters that will divert roof runoff away from livestock areas.

Recommended Activities

- In order to properly dispose of pet waste, carry bags, pooper-scooper, or equivalent to safely pick up pet wastes while walking with pets.

- Bathe pets indoors and use less toxic shampoos. When possible, have pets professionally groomed.

- Properly inoculate your pet in order to maintain their health and reduce the possibility of pathogens in pet wastes.

- Maintain healthy and vigorous pastures with at least three inches of leafy material.

- Consider indoor feeding of livestock during heavy rainfall, to minimize manure exposed to potential runoff.

- Locate barns, corrals, and other high use areas on portions of property that either drain away from or are located distant form nearby creeks or storm drains.

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com

R-6
DISPOSAL OF GREEN WASTES

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	
Metals	
Hydrocarbons	
Hazardous Materials	x
Pesticides and Herbicides	x
Other	

Green wastes entering the storm drain may clog the system creating flooding problems. Green wastes washed into receiving waters create an oxygen demand as they are decomposed, reducing the available oxygen for aquatic life. Pesticide and nutrient residues may be carried to the receiving water with the green wastes. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before disposing of any green wastes – Remember - The ocean starts at your front door.

Required Activities

- Green wastes can not be disposed of in the street, gutter, public right-of-way, storm drain, or receiving water. Dispose of green wastes as a part of the household trash. If the quantities are too large, arrange a pick up with the local waste hauler.

- After conducting yard or garden activities sweep the area and properly dispose of the clippings and waste. Do not sweep or blow out into the street or gutter.

Recommended Activities

- Utilize a commercial landscape company to conduct the landscape activities and waste disposal.

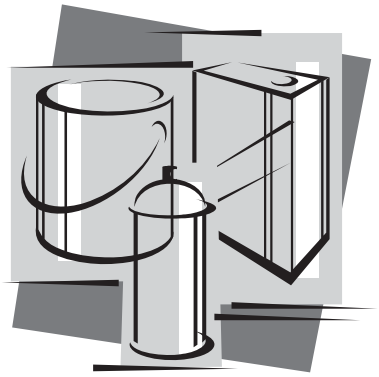
- Utilize native plants and drought tolerant species to reduce the water use and green waste produced.

- Use a lawn mower that has a mulcher so that the grass clippings remain on the lawn and do not have to be collected and disposed of.

- Compost materials in a designated area within the yard.

- Recycle lawn clippings and greenery waste through local programs if available.

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com



R-7
HOUSEHOLD HAZARDOUS WASTE

Household hazardous wastes (HHW) are defined as waste materials which are typically found in homes or similar sources, which exhibit characteristics such as: corrosivity, ignitability, reactivity, and/or toxicity, or are listed as hazardous materials by EPA.

The activities outlined in this fact sheet target the following pollutants:	
Sediment	
Nutrients	
Bacteria	
Foaming Agents	x
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	x
Other	x

List of most common HHW products:

- Drain openers
- Oven cleaners
- Wood and metal cleaners and polishes
- Automotive oil and fuel additives
- Grease and rust solvents
- Carburetor and fuel injection cleaners
- Starter fluids
- Batteries
- Paint Thinners
- Paint strippers and removers
- Adhesives
- Herbicides
- Pesticides
- Fungicides/wood preservatives

Many types of waste can be recycled, however options for each waste type are limited. Recycling is always preferable to disposal of unwanted materials. All gasoline, antifreeze, waste oil, and lead-acid batteries can be recycled. Latex and oil-based paint can be reused, as well as recycled. Materials that cannot be reused or recycled should be disposed of at a properly permitted landfill.

Think before disposing of any household hazardous waste. Remember - The ocean starts at your front door.

RECYCLE USED OIL

Required Activities

- Dispose of HHW at a local collection facility. Call (714) 834-6752 for the household hazardous waste center closest to your area.
- Household hazardous materials must be stored indoors or under cover, and in closed and labeled containers.
- If safe, contain, clean up, and properly dispose all household hazardous waste spills. If an unsafe condition exists, call 911 to activate the proper response team.

Recommended Activities

- Use non-hazardous or less-hazardous products.
- Participate in HHW reuse and recycling. Call (714) 834-6752 for the participating household hazardous waste centers.

The California Integrated Waste Management Board has a Recycling Hotline (800) 553-2962, that provides information and recycling locations for used oil.

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com

R-8
WATER CONSERVATION

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	x
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	x
Other	x

Excessive irrigation and/or the overuse of water is often the most significant factor in transporting pollutants to the storm drain system. Pollutants from a wide variety of sources including automobile repair and maintenance, automobile washing, automobile parking, home and garden care activities and pet care may dissolve in the water and be transported to the storm drain. In addition, particles and materials coated with fertilizers and pesticides may be suspended in the flow and be transported to the storm drain.

Hosing off outside areas to wash them down not only consumes large quantities of water, but also transports any pollutants, sediments, and waste to the storm drain system. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before using water. Remember - The ocean starts at your front door.

Required Activities

- Irrigation systems must be properly adjusted to reflect seasonal water needs.
- Do not hose off outside surfaces to clean, sweep with a broom instead.

Recommended Activities

- Fix any leaking faucets and eliminate unnecessary water sources.
- Use xeroscaping and drought tolerant landscaping to reduce the watering needs.
- Do not over watering lawns or gardens. Over watering wastes water and promotes diseases.
- Use a bucket to re-soak sponges/rags while washing automobiles and other items outdoors. Use hose only for rinsing.
- Wash automobiles at a commercial car wash employing water recycling.

For additional information contact:
County of Orange, OC Watershed
Main: (714) 955-0600/ 24hr Water Pollution Discharge Hotline 1-877-89-SPILL
or visit our website at: www.ocwatersheds.com

Efficient Irrigation SD-12

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include "NO DUMPING

– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Site Design & Landscape Planning SD-10

Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.
- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.
- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Appendix D

BMP Maintenance Supplement / O&M Plan

OPERATIONS AND MAINTENANCE (O&M) PLAN

Water Quality Management Plan

For

Newport Center Condominiums

150 Newport Center Drive, Newport Beach, CA 92660

APN 442-231-12

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BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	**BMP Name and BMP Implementation, Maintenance and Inspection Procedures**	**Implementation, Maintenance, and Inspection Frequency and Schedule**	**Person or Entity with Operation & Maintenance Responsibility**
NON-STRUCTURAL SOURCE CONTROL BMPs			
Yes	**N1. Education for Property Owners, Tenants and Occupants** Educational materials will be provided to tenants, including brochures and restrictions to reduce pollutants from reaching the storm drain system. Examples include tips for pet care, household tips, and proper household hazardous waste disposal. Tenants will be provided with these materials by the property management prior to occupancy, and periodically thereafter. Refer to Section VII for a list of materials available and attached to this WQMP. Additional materials are available through the County of Orange Storm water Program website (http://ocwatersheds.com/PublicEd/) and the California Storm water Quality Association's (CASQA) BMP Handbooks (http://www.cabmphandbooks.com/).	Educational materials will be provided to tenants annually. Materials to be distributed are found in Appendix C. Tenants will be provided these materials by the Owner prior to occupancy and periodically thereafter. Frequency: Annually	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
	N2. Activity Restrictions The HOA shall develop ongoing activity restrictions that include those that have the potential to create adverse impacts on water quality. Activities include, but are not limited to: handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick-up, and vehicle or equipment repair and maintenance in non-designated areas, as well as any other activities that may potentially contribute to water pollution.	The Owner will prescribe activity restrictions to protect surface water quality, through lease terms or other equally effective measure, for the property. Restrictions include, but are not limited to, prohibiting vehicle maintenance or vehicle washing. Frequency: Ongoing	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
	N3. Common Area Landscape Management Management programs will be designed and implemented by the HOA to maintain all the common areas within the project site. These programs will cover how to reduce the potential pollutant sources of fertilizer and pesticide uses, utilization of water-efficient landscaping practices and proper disposal of landscape wastes by the owner/developer and/or contractors.	Maintenance shall be consistent with City requirements. Fertilizer and/or pesticide usage shall be consistent with County Management Guidelines for Use of Fertilizers (OC DAMP Section 5.5) as well as local requirements. Maintenance includes mowing, weeding, and debris removal on a weekly basis. Trimming, replanting, and replacement of mulch shall be performed on an as-needed basis to prevent exposure of erodible surfaces. Trimmings, clippings, and other landscape wastes shall be properly disposed of in accordance with local regulations. Materials temporarily stockpiled during maintenance activities shall be placed away from water courses and storm drain inlets. Frequency: Monthly	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA
	N4. BMP Maintenance The HOA will be responsible for the implementation and maintenance of each applicable non-structural BMP, as well as scheduling inspections and maintenance of all applicable structural BMP facilities through its staff, landscape contractor, and/or any other necessary maintenance contractors. Details on BMP maintenance are provided in Section V of this WQMP, and the O&M Plan is included in Appendix D.	Maintenance of structural BMPs implemented at the project site shall be performed at the frequency prescribed in this WQMP (Appendix D). Records of inspections and BMP maintenance shall be kept by the Owner and shall be available for review upon request. Frequency: Ongoing	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
No	N5. Title 22 CCR Compliance (How development will comply)	Not Applicable	
	N6. Local Industrial Permit Compliance	Not Applicable	
	N7. Spill Contingency Plan	Not Applicable	
	N8. Underground Storage Tank Compliance	Not Applicable	
	N9. Hazardous Materials Disclosure Compliance	Not Applicable	
	N10. Uniform Fire Code Implementation	Not Applicable	
	N11. Common Area Litter Control The HOA will be responsible for performing trash pickup and sweeping of littered common areas on a weekly basis or whenever necessary. Responsibilities will also include noting improper disposal materials by the public and reporting such violations for investigation.	Litter patrol, violations investigations, reporting and other litter control activities shall be performed on a weekly basis and in conjunction with routine maintenance activities. Frequency: Weekly	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
	N12. Employee Training All employees of the HOA and any contractors will require training to ensure that employees are aware of maintenance activities that may result in pollutants reaching the storm drain. Training will include, but not be limited to, spill cleanup procedures, proper waste disposal, housekeeping practices, etc.	Educate all new employees/ managers on storm water pollution prevention, particularly good housekeeping practices, prior to the start of the rainy season (October 1). Refresher courses shall be conducted on an as needed basis. Frequency: Annually	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA
	N13. Housekeeping of Loading Docks	Not Applicable	
	N14. Common Area Catch Basin Inspection All on-site catch basin inlets and drainage facilities shall be inspected and maintained by the HOA at least once a year, prior to the rainy season, no later than October 1st of each year.	Catch basin inlets and other drainage facilities shall be inspected after each storm event and once per year. Inlets and other facilities shall be cleaned prior to the rainy season, by October 1 each year. Frequency: Annually	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA
	N15. Street Sweeping Private Streets and Parking Lots The HOA shall be responsible for sweeping all on-site drive aisles and parking areas within the project on a quarterly basis.	Drive aisles & parking areas must be swept at least quarterly (every 3 months), including prior to the start of the rainy season (October 1). Frequency: Quarterly	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA
	N16. Retail Gasoline Outlets	Not Applicable	
STRUCTURAL SOURCE CONTROL BMPs			

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
	S1. Provide storm drain system stenciling and signage The phrase "NO DUMPING! DRAINS TO OCEAN", or an equally effective phrase approved by the City, will be stenciled on all major storm drain inlets within the project site to alert the public to the destination of pollutants discharged into storm water. Stencils shall be in place prior to release of certificate of occupancy. Stencils shall be inspected for legibility on an annual basis and re-stenciled as necessary.	Storm drain stencils shall be inspected for legibility, at minimum, once prior to the storm season, no later than October 1 each year. Those determined to be illegible will be re-stenciled as soon as possible. Frequency: Annually	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA
	S2. Design and construct outdoor material storage areas to reduce pollution introduction	Not Applicable	
	S3. Design and construct trash and waste storage areas to reduce pollution introduction	Not Applicable	

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
	S4. Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control The HOA will be responsible for the installation and maintenance of all common landscape areas utilizing similar planting materials with similar water requirements to reduce excess irrigation runoff. The HOA will be responsible for implementing all efficient irrigation systems for common area landscaping including, but not limited to, provisions for water sensors and programmable irrigation cycles. This includes smart timers, rain sensors, and moisture shut-off valves. The irrigation systems shall be in conformance with water efficiency guidelines. Systems shall be tested twice per year, and water used during testing/flushing shall not be discharged to the storm drain system.	In conjunction with routine maintenance activities, verify that landscape design continues to function properly by adjusting properly to eliminate overspray to hardscape areas, and to verify that irrigation timing and cycle lengths are adjusted in accordance with water demands, given time of year, weather, and day or night time temperatures. System testing shall occur twice per year. Water from testing/flushing shall be collected and properly disposed to the sewer system and shall not discharge to the storm drain system. Frequency: 2x per year	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA
	S5. Protect slopes and channels and provide energy dissipation	Not Applicable	
	S6. Dock areas	Not Applicable	
	S7. Maintenance bays	Not Applicable	
	S8. Vehicle wash areas	Not Applicable	
	S9. Outdoor processing areas	Not Applicable	

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX			
BMP Applicable? Yes/No	BMP Name and BMP Implementation, Maintenance and Inspection Procedures	Implementation, Maintenance, and Inspection Frequency and Schedule	Person or Entity with Operation & Maintenance Responsibility
	S10. Equipment wash areas	Not Applicable	
	S11. Fueling areas	Not Applicable	
	S12. Hillside landscaping	Not Applicable	
	S13. Wash water control for food preparation areas	Not Applicable	
	S14. Community car wash racks	Not Applicable	

BMP INSPECTION & MAINTENANCE RESPONSIBILITY MATRIX		
BMP Name and BMP Implementation, Maintenance and Inspection Procedures	**Implementation, Maintenance, and Inspection Frequency and Schedule**	**Person or Entity with Operation & Maintenance Responsibility**
LOW IMPACT DEVELOPMENT BMPs		
Biotreatment BMP # 1: Proprietary Biotreatment: Modular Wetlands Modular Wetlands by Modular Wetlands Systems, Inc. are proprietary biotreatment systems that utilize multi-stage treatment processes including screening media filtration, settling, and biofiltration. The pre-treatment chamber contains the first three stages of treatment, and includes a catch basin inlet filter to capture trash, debris, gross solids and sediments, a settling chamber for separating out larger solids, and a media filter cartridge for capturing fine TSS, metals, nutrients, and bacteria. Runoff then flows through the wetland chamber where treatment is achieved through a variety of physical, chemical, and biological processes. As storm water passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded and sequestered by the soil and plants, functioning similar to bioretention systems. The discharge chamber at the end of the unit collects treated flows and discharges back into the storm drain system.	The Modular Wetland units shall be maintained in accordance with manufacturer's specifications. The system shall be inspected at a minimum of once every six months, prior to the start of the rainy season (October 1) each year, and after major storm events. Typical maintenance includes removing trash & debris from the catch basin screening filter (by hand), removal of sediment and solids in the settlement chamber (vacuum truck), replacement of the BioMediaGREEN™ filter cartridge, and replacement of the BioMediaGREEN™ drain down filter (if equipped). In addition, plants within the wetland chamber will require trimming as needed in conjunction with routine landscape maintenance activities. No fertilizer shall be used in this chamber. Wetland chamber should be inspected during rain events to verify flow through the system. If little to no flow is observed from the lower valve or orifice plate, the wetland media may require replacement. If prior treatment stages are properly maintained, the life of the wetland media can be up to 20 years. Frequency: 2x per year	Newport Center Anacapa Associates, LLC, Calmwater Capital 3, LLC / HOA

Required Permits

Permits are not required for the implementation, operation, and maintenance of the BMPs.

Forms to Record BMP Implementation, Maintenance, and Inspection

The form that will be used to record implementation, maintenance, and inspection of BMPs is attached.

Recordkeeping

All records must be maintained for at least five (5) years and must be made available for review upon request.

Waste Management

Any waste generated from maintenance activities will be disposed of properly. Wash water and other waste from maintenance activities is not to be discharged or disposed of into the storm drain system. Clippings from landscape maintenance (i.e. prunings) will be collected and disposed of properly off-site, and will not be washed into the streets, local area drains/conveyances, or catch basin inlets.

RECORD OF BMP IMPLEMENTATION, MAINTENANCE, AND INSPECTION

Today's Date: _____

Name of Person Performing Activity (Printed): _____

Signature: _____

BMP Name (As Shown in O&M Plan)	Brief Description of Implementation, Maintenance, and Inspection Activity Performed

RECORD OF BMP IMPLEMENTATION, MAINTENANCE, AND INSPECTION

Today's Date: _____

Name of Person Performing Activity (Printed): _____

Signature: _____

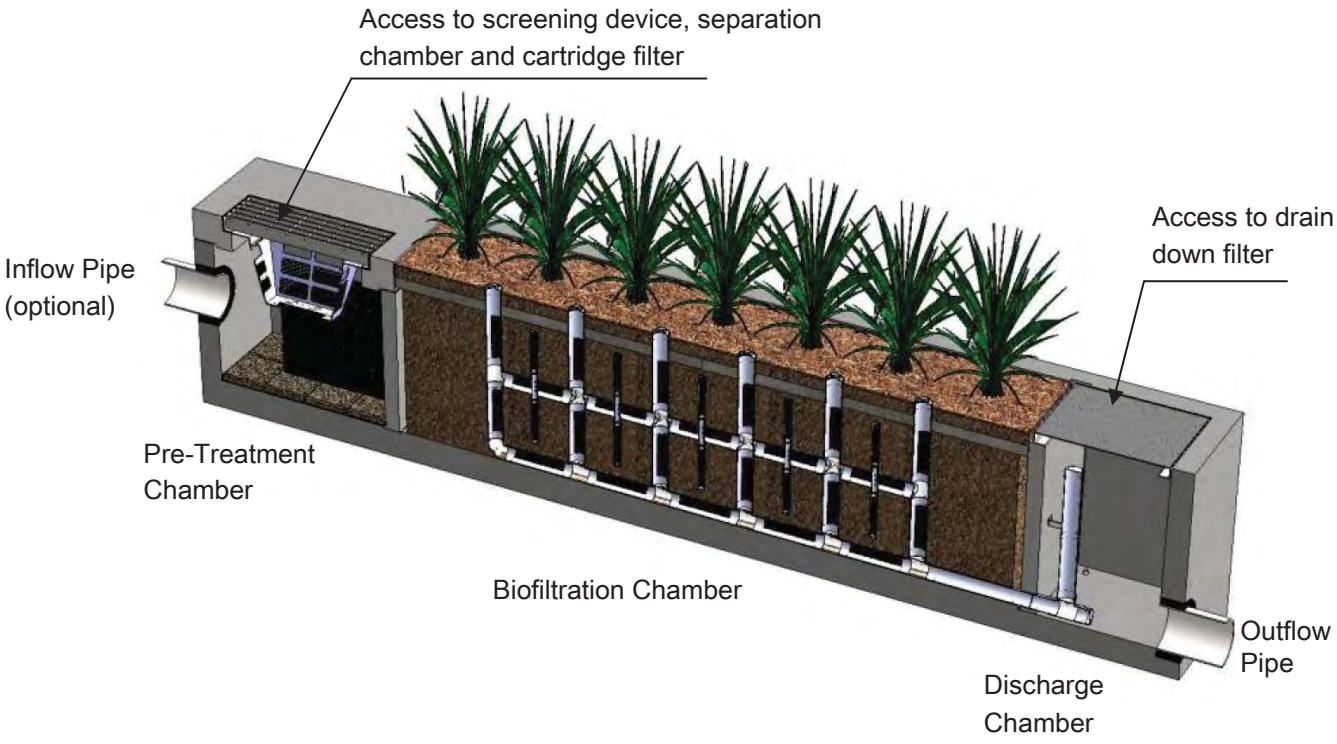
BMP Name (As Shown in O&M Plan)	Brief Description of Implementation, Maintenance, and Inspection Activity Performed

Maintenance Guidelines for Modular Wetland System - Linear

Maintenance Summary

- Remove Trash from Screening Device – average maintenance interval is 6 to 12 months.
  - (*5 minute average service time*).
- Remove Sediment from Separation Chamber – average maintenance interval is 12 to 24 months.
  - (*10 minute average service time*).
- Replace Cartridge Filter Media – average maintenance interval 12 to 24 months.
  - (*10-15 minute per cartridge average service time*).
- Replace Drain Down Filter Media – average maintenance interval is 12 to 24 months.
  - (*5 minute average service time*).
- Trim Vegetation – average maintenance interval is 6 to 12 months.
  - (*Service time varies*).

System Diagram



Maintenance Procedures

Screening Device

1. Remove grate or manhole cover to gain access to the screening device in the Pre-Treatment Chamber. Vault type units do not have screening device. Maintenance can be performed without entry.
2. Remove all pollutants collected by the screening device. Removal can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screening device.
3. Screening device can easily be removed from the Pre-Treatment Chamber to gain access to separation chamber and media filters below. Replace grate or manhole cover when completed.

Separation Chamber

1. Perform maintenance procedures of screening device listed above before maintaining the separation chamber.
2. With a pressure washer spray down pollutants accumulated on walls and cartridge filters.
3. Vacuum out Separation Chamber and remove all accumulated pollutants. Replace screening device, grate or manhole cover when completed.

Cartridge Filters

1. Perform maintenance procedures on screening device and separation chamber before maintaining cartridge filters.
2. Enter separation chamber.
3. Unscrew the two bolts holding the lid on each cartridge filter and remove lid.
4. Remove each of 4 to 8 media cages holding the media in place.
5. Spray down the cartridge filter to remove any accumulated pollutants.
6. Vacuum out old media and accumulated pollutants.
7. Reinstall media cages and fill with new media from manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase.
8. Replace the lid and tighten down bolts. Replace screening device, grate or manhole cover when completed.

Drain Down Filter

1. Remove hatch or manhole cover over discharge chamber and enter chamber.
2. Unlock and lift drain down filter housing and remove old media block. Replace with new media block. Lower drain down filter housing and lock into place.
3. Exit chamber and replace hatch or manhole cover.

Maintenance Notes

1. Following maintenance and/or inspection, it is recommended the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.

2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.

3. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

4. Entry into chambers may require confined space training based on state and local regulations.

5. No fertilizer shall be used in the Biofiltration Chamber.

6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may require irrigation.

Maintenance Procedure Illustration

Screening Device

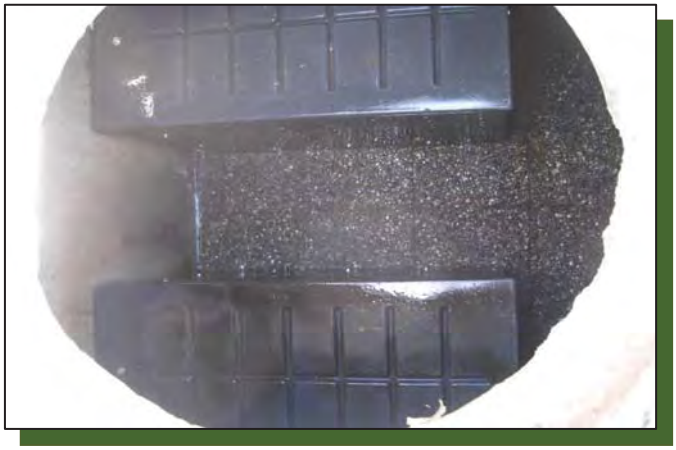
The screening device is located directly under the manhole or grate over the Pre-Treatment Chamber. It's mounted directly underneath for easy access and cleaning. Device can be cleaned by hand or with a vacuum truck.

Separation Chamber

The separation chamber is located directly beneath the screening device. It can be quickly cleaned using a vacuum truck or by hand. A pressure washer is useful to assist in the cleaning process.

Cartridge Filters

The cartridge filters are located in the Pre-Treatment chamber connected to the wall adjacent to the biofiltration chamber. The cartridges have removable tops to access the individual media filters. Once the cartridge is open media can be easily removed and replaced by hand or a vacuum truck.

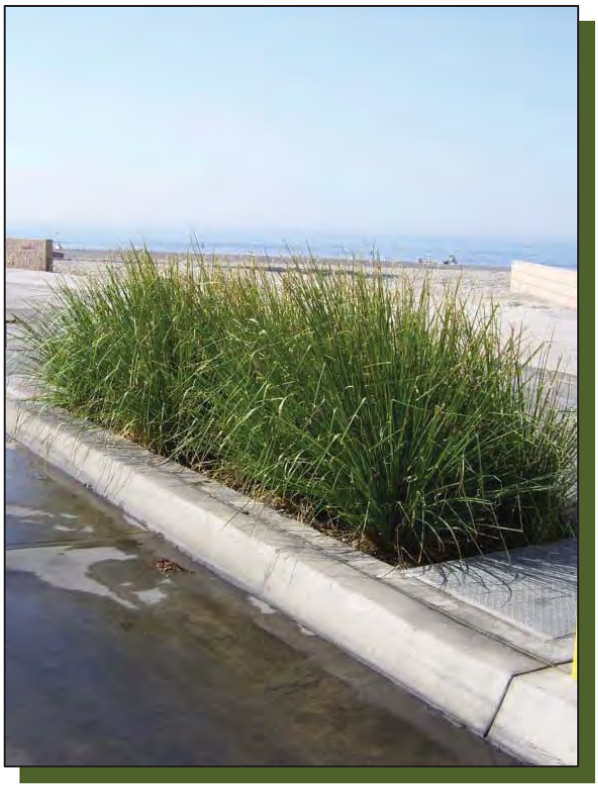


Drain Down Filter

The drain down filter is located in the Discharge Chamber. The drain filter unlocks from the wall mount and hinges up. Remove filter block and replace with new block.

Trim Vegetation

Vegetation should be maintained in the same manner as surrounding vegetation and trimmed as needed. No fertilizer shall be used on the plants. Irrigation per the recommendation of the manufacturer and or landscape architect. Different types of vegetation requires different amounts of irrigation.



Inspection Form

Modular Wetland System, Inc.
P. 760.433-7640
F. 760-433-3176
E. Info@modularwetlands.com

www.modularwetlands.com

Inspection Report
Modular Wetlands System

Project Name _____

Project Address _____ (city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

Inspection Checklist

Modular Wetland System Type (Curb, Grate or UG Vault): _____ Size (22', 14' or etc.): _____

Structural Integrity:	**Yes**	**No**	**Comments**
Damage to pre-treatment access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Damage to discharge chamber access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Does the MWS unit show signs of structural deterioration (cracks in the wall, damage to frame)?			
Is the inlet/outlet pipe or drain down pipe damaged or otherwise not functioning properly?			
Working Condition:			
Is there evidence of illicit discharge or excessive oil, grease, or other automobile fluids entering and clogging the unit?			
Is there standing water in inappropriate areas after a dry period?			
Is the filter insert (if applicable) at capacity and/or is there an accumulation of debris/trash on the shelf system?			
Does the depth of sediment/trash/debris suggest a blockage of the inflow pipe, bypass or cartridge filter? If yes, specify which one in the comments section. Note depth of accumulation in in pre-treatment chamber.			Depth:
Does the cartridge filter media need replacement in pre-treatment chamber and/or discharge chamber?			Chamber:
Any signs of improper functioning in the discharge chamber? Note issues in comments section.			
Other Inspection Items:			
Is there an accumulation of sediment/trash/debris in the wetland media (if applicable)?			
Is it evident that the plants are alive and healthy (if applicable)? Please note Plant Information below.			
Is there a septic or foul odor coming from inside the system?			

Waste:	**Yes**	**No**
Sediment / Silt / Clay		
Trash / Bags / Bottles		
Green Waste / Leaves / Foliage		

Recommended Maintenance	
No Cleaning Needed	
Schedule Maintenance as Planned	
Needs Immediate Maintenance	

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes:

2972 San Luis Rey Road, Oceanside, CA 92058 P (760) 433-7640 F (760) 433-3176

Maintenance Report

Modular Wetland System, Inc.
P. 760.433-7640
F. 760-433-3176
E. Info@modularwetlands.com

www.modularwetlands.com

Cleaning and Maintenance Report
Modular Wetlands System

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Insert	Manufacturer / Description / Sizing	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Total Debris Accumulation	Condition of Media 25/50/75/100 (will be changed @ 75%)	Operational Per Manufactures' Specifications (If not, why?)
	Lat: Long:	MWS Catch Basins						
		MWS Sedimentation Basin						
		Media Filter Condition						
		Plant Condition						
		Drain Down Media Condition						
		Discharge Chamber Condition						
		Drain Down Pipe Condition						
		Inlet and Outlet Pipe Condition						

Comments:

2972 San Luis Rey Road, Oceanside, CA 92058 P. 760.433.7640 F. 760.433.3176

Appendix E

Conditions of Approval

Placeholder – Pending Issuance

Appendix F

Geotechnical Information

NMG Geotechnical, Inc.

February 3, 2015

Project No. 14117-01

To: Newport Center Anacapa Associates, LLC
c/o Ridgeway Development Company
2804 Lafayette Avenue
Newport Beach, California 92663

Attention: Mr. Ron Soderling

Subject: Feasibility Report for Proposed Newport Center Condominium Site Development, 150 Newport Center Drive, City of Newport Beach, California

In accordance with your authorization, NMG Geotechnical, Inc. (NMG) has performed a feasibility study for the proposed condominium development at 150 Newport Center, in the City of Newport Beach, California. The primary purpose of our study was to provide a summary of the geologic and geotechnical conditions of the site to identify potential geotechnical issues that might impact the proposed re-development.

The project site is approximately 1.25 acres and is currently an active car wash with surrounding asphalt parking lot. The site is located at the southwest corner of Newport Center Drive and Anacapa Drive (Figure 1). We understand the proposed development will be a condominium complex consisting of three subterranean parking levels with seven-story residential building above the parking structure. We have reviewed a conceptual design package showing the current design scheme, prepared by MVE Partners and received by NMG on January 26, 2015. A recently flown and scribed topographic map was also provided by Fuscoe Engineering. A grading plan has not yet been prepared at this time.

The main geotechnical issues for the proposed subterranean development include:

1) The presence of varying earth units across the site; fill of varying composition, sandy marine terrace deposits, and potentially diatomaceous siltstone and sandstone bedrock.

2) The potential for presence of perched groundwater along the terrace/bedrock contact. This condition has been encountered at sites within the Fashion Island/Newport Center area (but was not reported during prior investigations in the adjacent properties, by NMG and others, as deep as 45.5 feet below ground surface).

3) The potential for presence of saturated soils at the fill/terrace contact. This was encountered across the street during the grading operations for the new restaurants.

4) The potential for presence of weathered/low density bedrock at the terrace/bedrock contact.

Based on our review, we conclude that the subject property is considered suitable for the future proposed development from a geotechnical viewpoint, provided the project is designed and constructed in accordance with the geotechnical considerations and recommendations.

If you have any questions regarding this report, please contact our office. We appreciate the opportunity to provide our services.

Respectfully submitted,

NMG GEOTECHNICAL, INC.

Anthony Zepeda, GIT 458
Senior Staff Geologist

Terri Wright, CEG 1342
Principal Geologist

Shahrooz "Bob" Karimi, RCE 54250
Principal Engineer

AZ/TW/SBK/je

Distribution: (2) Addressee
(3) Mr. Pat Fuscoe, Fuscoe Engineering (includes copies for agency submittal)

TABLE OF CONTENTS

Appendices

List of Attachments

1.0 INTRODUCTION

1.1 Purpose and Scope of Work

In accordance with your request, NMG Geotechnical, Inc. (NMG) has prepared this feasibility report for the Newport Center Condominium Development, in the City of Newport Beach, California. The primary purpose of our study was to provide a summary of the geologic and geotechnical conditions of the site to identify potential geotechnical issues that might impact the proposed re-development. We have reviewed the conceptual design package prepared by MVE Partners, received by NMG on January 26, 2015. Fuscoe Engineering has also prepared a topographic map of the site portraying the current site conditions that was used as the base map for the Boring/Trench Location Map (Figure 2).

Our scope of work was as follows:

- Acquisition, review and analysis of available geotechnical reports and maps for the subject site and surrounding area. This included a search through the city of Newport Beach archives for the prior geotechnical work performed at and surrounding the site. A list of references is included in Appendix A.
- Review of historic aerial photographs dating back to the late 1930's. A list of the photographs reviewed is included in Appendix A.
- Compilation of laboratory test results by NMG and others from previous geotechnical investigations (Appendix C). Laboratory testing includes in-situ moisture and density, grain-size analysis, consolidation, shear strength, Atterberg limits, maximum density and optimum moisture content, and expansion index.
- Evaluation of faulting and seismicity in accordance with the 2013 California Building Code (CBC).
- Geotechnical review of the compiled data including the geologic and soil conditions. Preliminary engineering evaluation included settlement and liquefaction potential, and remedial grading, preliminary foundation and grading considerations.
- Preparation of illustrations including: a Site and Seismic Hazard Location Map (Figure 1), a Geotechnical Map on Existing Topographic Map (Figure 2), Historic Topographic Map (Figure 3) and a Boring Location Map (Figure 4) which provides a compilation of the boring and trench locations that were excavated at the site and on adjacent sites, from previous geotechnical studies by NMG and others.
- Preparation of this report with our findings, conclusions, and preliminary considerations and recommendations for the proposed condominium site.

1.2 Site Location and Description

The project site is approximately 1-1/4 acres in size and is bordered to the north by Newport Center Drive, to the east by Anacapa Drive, and to the south and west by existing office buildings and asphalt parking lots (Figure 1). The site is essentially flat, gently sloping toward the southwest. Elevations vary from a low of 158.5 feet above mean sea level (msl) in the south-southwest corner to a high elevation of 170.3 feet above msl in the northeast corner. Slopes and

retaining walls are located along the northern and eastern perimeter of the site, ascending up to Newport Center Drive and Anacapa Drive, varying in height from 2 to 8 feet. Drainage at the site sheet flows towards the south-southwest. Currently, there is an active car wash/service building in the center of the property, with asphalt paved parking lots surrounding the building.

1.3 Site History and Prior Investigations

Based on review of historic aerial photographs dating back to the late 1930s, the prior use for the subject site was for agricultural (ranching) activities through the mid-1960's when The Irvine Company graded and developed the surrounding Fashion Island/Newport Center area. By 1972, the subject site was in its current state, Fashion Island was built, and the majority of the adjacent streets were constructed or being graded. The adjacent office buildings to the west, and theatre to the east, within the 100 and 300 blocks of Newport Center Drive, were being constructed between 1972 and 1975. By 1992, the subject site and adjacent buildings are essentially in their current state.

The aerial photos suggest the site was originally graded in the mid-1960s with the Fashion Island grading; however, we have not been able to find a report for this grading. Subsequently, in the early 1970s the subject site was re-graded to the existing conditions and the car wash was constructed. The latter grading was relatively minor to create a level pad; we have not been able to find a copy of this report either.

Historically the subject site was a generally flat area located on a marine terrace/old wave-cut platform with elevations ranging from 140 feet above msl along the southwestern portion to an elevation of 160 feet above msl along the northeastern portion (Figure 3). A stream-cut draw trending northeast lies to the west of the subject site and can be seen in early United States Geological Survey (USGS) Topographic maps (USGS, 1949, 1950 and 1951) and on aerial photographs from 1939. This canyon was in-filled with artificial fill during early grading activities and was documented during prior investigations (W.A. Wahler, 1970 and G.A. Nicoll, 1972). Documentation of the early grading mentioned in these reports was not found during our search through the city of Newport Beach files.

Prior geotechnical investigations were performed by W.A. Wahler & Associates (1970) at the subject site prior to development of the car wash (Figures 2 and 4). This investigation included excavation of 5 exploratory test pits (trenches) across the subject site and collection of bulk and in-situ soil samples. Test pits were excavated up to 14 feet deep and encountered fill material and native soil. Fill material generally ranged in thickness from 9 to 14+ feet. In the western portion of the property the fill extended below a depth of 14 feet, native soil was not encountered.

Numerous geotechnical investigations have been performed by NMG and others within the vicinity of the subject site (Figure 4). NMG performed a geotechnical exploration for two restaurant pads north of the subject site, on the north side of Newport Center Drive (NMG, 2012a and 2012b). The exploration included excavation of five hollow-stem auger borings and laboratory testing to determine the engineering characteristics of the on-site soils. In 1972, G.A. Nicoll performed a geotechnical investigation for the adjacent six office buildings, southwest of

the subject site, which included excavation of 17 bucket-auger borings and laboratory testing. Moore & Taber performed a geotechnical investigation in 1975 for the bank building to the west, which included excavation of three bucket auger borings. Two geotechnical investigations were performed for expansion of the existing Edwards Theatre to the east of the site by Soils International (1988) and R.T. Frankian (1994) which included excavation of two and three hollow-stem auger borings, respectively.

The data from the prior investigations by NMG and others were reviewed for our study. Boring and trench logs are included in Appendix B and laboratory testing data are included in Appendix C.

1.4 Proposed Development

The proposed condominium development will consist of a large, three-story subterranean parking garage with an overlying seven-story residential condominium buildings above the parking garage. We understand there is a planned pool area on the seventh level of the planned building.

The lowest garage level will be at an elevation of 136 feet above mean sea level (msl) and nearly spans the footprint of the proposed condominium structure. This level is anticipated to overlie native soils and require excavations, up to 31 feet deep. The other garage levels and the residential building overlie this garage level. Entrance to the parking garage will be from the south of the building to the upper garage level.

2.0 GEOTECHNICAL FINDINGS

2.1 Geologic Setting

The site is located on the Newport Mesa, approximately ¾-mile inland from the ocean. The mesa highland is covered with coastal terrace deposits and is located at the southwestern end of the San Joaquin Hills. Mapping by the State (CDMG, 1981) indicates the site is underlain by Quaternary-age marine terrace deposits which overlie Miocene-age sedimentary bedrock of the Monterey Formation.

The Fashion Island/Newport Center area exhibits a configuration that is characteristic of a series of distinguishable elevated terraces and wave-cut platforms. The area has undergone regional uplift since deposition of the marine terrace deposits onto the ancient wave cut benches. These deposits were subsequently uplifted with the oldest deposits exposed along the higher, northern portion of the center and the lower/younger deposits located along the southern portion of the center. The subject site is located on the second elevated terrace deposit, mapped as Qtm2 by the State (Tan, 1976).

2.2 Earth Units

Our evaluation of the onsite data indicates that the site is underlain by marine terrace deposits and bedrock of the Monterey Formation. Existing artificial fill overlies these native deposits and was found to be 9 to 14+ feet thick at the subject site. These units are described below, in the order of youngest to oldest.

Artificial Fill (Af): Based on review of the prior geotechnical report at the site (W.A. Wahler, 1970), there is between 9 to 14+ feet of existing artificial fill across the site. The bottom of the existing fill was not encountered in their test pits excavated in the western portion of the site. The fill materials were found to consist of brown to dark brown and reddish brown sand, silty sand, and clayey sand that was generally damp to moist and medium dense. Gray to dark gray clay and sandy clays were also encountered and were found to be damp to moist and stiff to very stiff. Undisturbed samples of the artificial fill were collected during the investigation. In-situ dry densities for sandy fill material ranged from 108.8 pounds-per-cubic-foot (pcf) to 127.8 pcf with moisture contents ranging from 6.9 to 16.0 percent. In-situ dry densities for clayey fill material ranged from 86.3 pcf to 134.3 pcf with moisture contents ranging from 13.2 to 30.4 percent.

It appears little to no remedial removals were performed during the original grading at the subject site. The materials below the fill, at the top of the native marine terrace deposits, were described by W.A. Wahler as dark brown silty sand with undisturbed grass. It is anticipated that the existing fill and the terrace materials will be removed under the proposed building with the subterranean excavation.

Marine Terrace Deposit (Qtm): Quaternary-age marine terrace deposits underlie the existing artificial fill and overlie the Monterey Formation bedrock. These deposits consist primarily of yellowish brown, dark brown, reddish brown and grayish brown clean fine to medium sands with

local zones of silty and/or clayey fine to medium sands. The terrace deposits were encountered in two of the five test pits excavated by W.A. Wahler. The terrace material was found to be damp and medium dense. The basal portions of these deposits often contain rounded cobbles, fragments of the underlying bedrock, and sometimes shells. It is not known whether the terrace deposits underlie the fill in the southern portion of the site.

Monterey Formation (Tm): Bedrock of the Miocene-age Monterey Formation underlies the marine terrace deposits and generally consists of olive gray interbedded fine sandstone, siltstone and claystone. Bedding thickness varies from thin to laminated with localized thin beds of cemented siltstone (or shale, up to ½ inch thick). The bedrock underlying the wave cut bench near the contact is typically found to be highly weathered. Bedrock was not encountered during the geotechnical investigations at the subject site by W.A. Wahler. The marine terrace/bedrock contact at the site is estimated to be at elevations of 145 to 155 feet above msl, based on boring data by NMG (2012a and 2012b) and G.A. Nicoll (1972). Some of the siltstone within the Monterey Formation has been found to be diatomaceous and was encountered during a geotechnical exploration for the nearby Edwards Cinema to the east of the subject site (Soils International, 1988). The diatomaceous bedrock was generally medium stiff to very stiff, with low dry densities (67 to 87 pcf) and high moisture content (27 to 36 percent). The bedrock encountered to the north by NMG consisted of interbedded light gray to yellow brown sandstone and olive gray siltstone. The dry densities varied from 91.5 to 112 pcf and the moisture contents varied from 7.5 to 24.8 percent.

2.3 Geotechnical Conditions

The following includes a summary of the subsurface geotechnical conditions based on the laboratory test results performed on in-situ and bulk samples from previous investigations (Appendix C). The majority of these tests are from offsite investigations, but the results are summarized below.

Prior laboratory testing by W.A. Whaler for the onsite fill included:

- Field resistivity tests, indicating the corrosivity of the soils to metals, found the fill to have resistivity of 1435 ohm-cm (severe) to 2200 ohm-cm (moderate);
- pH was tested to be 6.8 (slightly acidic);
- Dry densities of 86.3 to 127.8 pcf and moisture contents of 6.9 to 30.4 percent;
- USCS classification of mostly SP, SW, SM, with some SW, SC, CL and CH; and
- Shear strength test indicating an angle of internal friction of 35 degrees and cohesion of 0.75 ksf.

Test results by NMG (2012a and 2012b) north of Newport Center Drive, included very low to low expansion potential in the fill with negligible sulfate potential. USCS classifications were mostly SM and SP, with some SC. The angle of internal friction of the fill varied from 29 to 31 degrees with 0 to 350 psf cohesion. Maximum densities ranged from 125 to 128.5 psf with optimum moistures ranging from 8.5 to 9.5 percent. The upper weathered portion of the terrace deposit was generally found to be more compressible than the fill.

As previously discussed, the composition of the bedrock underlying the site could vary between sandstone, siltstone, and diatomaceous siltstone. Since we believe the building will be founded in bedrock, our proposed investigation is intended to drill to deeper depths to determine the conditions of the bedrock underlying the site.

2.4 Regional Faulting, Seismicity, and Seismic Hazards

Regional Faults: The site is not located within a fault-rupture hazard zone as defined by the Alquist-Priolo Special Studies Zones Act (Hart and Bryant, 2007) and no evidence of active faulting was found during our background study or during our prior work at Fashion Island. Also, based on mapping by the State (Jennings, 2010), there are no active faults mapped at the site.

Using the USGS Deaggregation computer program (USGS, 2013a) and the site coordinates of 33.612 degrees north latitude and -117.875 degrees west longitude, the closest major active faults to the site are the Newport-Inglewood Fault located 2.5 miles (4.1 km) to the south of the site and the San Joaquin Hills Thrust Fault located 3.4 miles (5.4 km) north of the site.

Seismicity: Properties in southern California are subject to seismic hazards of varying degrees depending upon the proximity, degree of activity, and capability of nearby faults. These hazards can be primary (i.e., directly related to the energy release of an earthquake such as surface rupture and ground shaking) or secondary (i.e., related to the effect of earthquake energy on the physical world, which can cause phenomena such as liquefaction and ground lurching). Since there are no active faults at the site, the potential for primary ground rupture is considered very low. The primary seismic hazard for this site is ground shaking due to a future earthquake on one of the major regional active faults.

The maximum moment magnitude for the Controlling Fault is 6.97, which would be generated from the San Joaquin Hills Thrust Fault.

Secondary Seismic Hazards: The site is not located in an area classified by the State as having soils that are potentially liquefiable or in a area mapped as susceptible to seismically induced landslides, based on the Seismic Hazard Maps (CDMG, 1998a and 1998b, Figure 1).

The potential for secondary seismic hazards, such as tsunami and seiche are considered very low to nil, as the site is located away from the ocean at an elevation of over 140 feet above mean sea level (msl) and outside of mapped tsunami inundation zones (CGS, 2009). The site is not located adjacent to a confined body of water; therefore, the potential for seismic hazard of a seiche (an oscillation of a body of water in an enclosed basin) is considered very low to nil.

2.5 Groundwater

The groundwater table and/or seepage were not encountered during the previous investigation by W.A. Wahler or during the investigations for the adjacent office buildings to a depth of 45 feet below ground surface. These studies were done in the 1970s prior to development at the site.

NMG also did not encounter groundwater in borings drilled to the north of the site to depths of up to 41 feet in 2012.

Perched groundwater seepage and wet soils have been found along the terrace-bedrock contact at many sites in and around Newport Center. Only wet conditions were found near this contact in the borings by NMG in 2012. The perched groundwater and/or wet soils are interpreted to be the result of infiltration and return-flow of irrigation water and rainwater into up-gradient sandy terrace deposits which becomes perched on the relatively less permeable bedrock. The water then travels laterally down gradient along the contact and down through fractures in the bedrock and through the sandstone beds, where present.

During grading to the north of the site, wet soils were encountered along the fill-terrace contact during grading observed by NMG. This material required utilization of excavators. Perched groundwater has also been found to extend into the weathered/fractured bedrock below the contact at nearby sites.

2.6 Settlement and Foundation Considerations

The site is underlain by three earth units including 1) marine terrace deposits which are primarily sandy, 2) sandstone and siltstone of the Monterey formation at depth, and 3) compacted fill near surface. Based on our preliminary background investigation, the lowest garage floor, Level 3, will be founded on bedrock. Garage Levels 1 and 2 will be entirely overlying Level 3.

The amount of settlement expected will depend upon the type of foundation(s) selected. Our preliminary settlement analyses for this study indicate the total consolidation (static) settlement may be on the order of 1½ -inches for column loads of up to 1,000 kips and allowable bearing capacity of 4,000 psf. The differential settlement is expected to be on the order of ¾ -inch over a 30-foot span

2.7 Temporary Slope Stability

Temporary cut slopes for this project will expose varying earth materials and potential seepage. The excavation for construction of building and perimeter retaining walls will be up to 31 feet high. These excavations will be close to the property line along the south and west sides and 15 feet from the adjacent road right-of-ways along the north and east sides of the building.

These temporary slopes for the garage will expose up to 20 feet of bedrock, with an estimated 2 to 8 feet of terrace deposits and up to 14+ feet of artificial fill. There may be local seepage and wet sands within the fill/terrace and terrace/bedrock contacts. Locally, these slopes could slough or potentially slump along the contact. The bedding orientation in the bedrock is not known at this time. As a result, we are recommending at least two bucket auger borings at the site that will extend to at least 20 feet below the proposed subgrade. These borings will be downhole logged to determine the geologic structure in the bedrock.

The onsite fill and terrace sands have a high potential for erosion (during rainy periods or uncontrolled runoff). These deposits are considered subject to gross instability in vertical excavations. Therefore, temporary shoring with lagging will need to be designed for the site. NMG will provide shoring design recommendations after the future onsite investigation. It will also be important that the excavations be mapped by an engineering geologist during excavation.

3.0 CONCLUSION AND PRELIMINARY RECOMMENDATIONS

3.1 General Conclusion and Recommendation

Based on our preliminary due diligence study, the site is geotechnically suitable for the proposed development. The most significant geotechnical constraint at the site is the presence of varying earth units and potential for perched groundwater. Geologic hazards related to regional earthquake potential (seismic shaking) are not any greater than at other comparable sites in the vicinity. The site is not located in a seismic hazard zone for potential liquefaction or seismically induced landslides.

We recommend that a site specific geotechnical investigation be performed at the site to better assess the site conditions and provide recommendations for design, grading and construction. The proposed investigation will include drilling, sampling and downhole logging of two bucket auger borings, and drilling, sampling and logging of three hollow stem borings. In addition to the following recommendations, General Earthwork and Grading Specifications are provided in Appendix E.

3.2 Grading Recommendations

Prior to grading, the site should be cleared of heavy vegetation and deleterious materials (including asphalt pavement, concrete and existing utility pipelines to be removed) and disposed of offsite. The proposed excavation to construct the subterranean parking structure is anticipated to remove weathered fill and near-surface soils in the vicinity of the building. The bottom level of parking is planned to cover the majority of the site, so there would be little removals around the building; the extended flatwork on grade around the building is anticipated to be placed on compacted backfill materials.

There are varying soil types anticipated to be exposed in the building excavation. The subgrade for Level 3 is anticipated to expose bedrock. The composition of the bedrock may have differing expansion potential. If such condition is observed during the site investigation and/or grading operations, the subgrade soils may need to be overexcavated to a depth of 3 to 5 feet below subgrade and replaced with uniform, low expansion potential soils (i.e., the sandy fill and sandy terrace deposits). Onsite soil materials with the exception of highly expansive clays are considered suitable as fill materials below the building slabs and footings. The soils should be mixed to provide a uniform blend of material; sands and clays. Placement of soils with dissimilar expansion potential should be avoided.

The overexcavation bottom (if any) should be scarified a minimum of 6 inches, moisture-conditioned as needed, and compacted in place prior to placement of fill materials. Fill materials should be placed in maximum 8-inch-thick lifts, moisture-conditioned, and compacted to a minimum of 90 percent relative compaction in accordance with ASTM Test Method D1557.

3.3 Temporary Excavations

As previously discussed, the excavations around the building will vary in depth up to 31 feet along the majority of the site perimeter. If overexcavation of the subgrade soils is needed, the heights of these temporary excavations will be greater. These slopes will expose varying earth units and possibly adverse bedding and/or groundwater seepage. There are also utility trenches around the building that might have differing soil types used as backfill, including bedding and shading sands. These materials, when exposed, are considered Type C soils per Cal/OSHA regulations and should be excavated at 1.5H:1V or flatter, with no vertical excavation. Due to the depth of the excavation, it is anticipated that temporary shoring with lagging will be needed. In addition, due to the height of the shoring, it is likely that tie backs may be recommended by the shoring designer. Permission would be needed from the adjacent property owners to use these temporary tie-backs. Alternatively, shoring could be designed with rackers and braces; as cantilever shoring with deeper caissons; or other methods.

Excavations located adjacent to existing structures (roadways and utilities) should be reviewed periodically by the geotechnical consultant to evaluate the potential for failure. If evidence of instability (such as ground cracks or failures) is observed, then recommendations for additional shoring or other appropriate measures will be provided.

3.4 Building Foundations

The type of building foundations for the site will depend on the anticipated column loads for the structure and the potential compressibility of the supporting soil/bedrock materials. For preliminary design of shallow foundations, a net allowable bearing capacity of 1,800 psf may be assumed for a 12-inch-wide footing embedded 12 inches below the lowest adjacent grade. The allowable bearing pressure may be increased by 500 psf for every additional foot of embedment and by 200 psf for every additional foot of width to a maximum of 4,000 psf. The allowable bearing pressure may be increased by one-third for wind and seismic loading. We recommend that strip and isolated footings have a minimum embedment depth of 24 inches. For lateral resistance against sliding, a friction coefficient of 0.35 may be used at the soil-foundation interface. In addition, for large foundations and mat type slabs (if any), the subgrade modulus of reaction may be assumed to be 75 pci.

The foundations and slab-on-grade should be designed for a total and differential settlement presented below.

3.5 Settlement

The amount of settlement expected will depend upon the type of foundation(s) selected and the type and extent of the soil improvements. Our preliminary settlement analysis is based on the proposed excavations and remedial grading anticipated at the site, the assumed column loads of up to 1,000-kips for the proposed structure and allowable bearing capacity of 4,000 psf. The total and differential settlement for the proposed improvements at the site is expected to be on the order of 1½ - inches and ¾ - inch over a 30-foot span, respectively. For loads significantly

greater than 1,000-kips, or for smaller differential settlement requirements, alternative foundations, such as deep foundations or mat slabs and foundations may be required.

3.6 Seismic Design Guidelines

The seismic design criteria based on the 2013 California Building Code (CBC) is presented in the following table:

Selected Seismic Design Parameters from 2013 CBC/ASCE 7-10	*Seismic Design Values*	*Reference*
Latitude	33.612 North	
Longitude	117.875 West	
Nearest Seismic Source	Newport-Inglewood Fault	USGS 2013a
Distance to Nearest Seismic Source	2.5 Miles (4.1 km)	USGS 2013a
Site Class per Table 20.3-1 of ASCE 7-10	D	USGS, 2013b
Spectral Acceleration for Short Periods (Ss)	1.681 g	USGS, 2013b
Spectral Accelerations for 1-Second Periods (S1)	0.615 g	USGS, 2013b
Site Coefficient F_a, Table 11.4-1 of ASCE 7-10	1.0	USGS, 2013b
Site Coefficient F_v, Table 11.4-2 of ASCE 7-10	1.5	USGS, 2013b
Design Spectral Response Acceleration at Short Periods (S_{DS}) from Equation 11.4-3 of ASCE 7-10	1.120 g	USGS, 2013b
Design Spectral Response Acceleration at 1-Second Period (S_{D1}) from Equation 11.4-4 of ASCE 7-10	0.615 g	USGS, 2013b
Peak Ground Acceleration (MCE_R) Corrected for Site Class Effects from Equation 11.8-1 of ASCE 7-10	0.685 g	USGS, 2013b
Seismic Design Category, Section 11.6 of ASCE 7-10	D	USGS, 2013b

3.7 Expansion Potential

Based on laboratory testing, the expansion potential of onsite soils is anticipated to generally range from "Very Low" to "Medium" within the terrace and existing fill materials. Soils with "High" expansion are likely to be encountered in the siltstone/claystone of the Monterey Bedrock. Additional laboratory testing should be performed during the recommended geotechnical investigation to determine the expansion potential of the bedrock and also following completion of grading operations around the building to determine the expansion potential of the near-surface soils.

3.8 Cement Type for Construction

Laboratory test results indicate that the soluble sulfate content of current subgrade soils are generally in the negligible range. Additional laboratory testing should be performed during the recommended geotechnical investigation and following completion of grading operations to determine the soluble sulfate content to be used for design of concrete in contact with the soil in compliance with Table 4.3.1 of ACI-318.

3.9 Surface Drainage and Irrigation

Inadequate control of run-off water, heavy irrigation after development of the site, or regional groundwater level changes may result in shallow groundwater conditions where previously none existed. Maintaining adequate surface drainage, proper disposal of run-off water, and control of irrigation will help reduce the potential for future moisture-related problems and differential movements from soil heave/settlement.

Surface drainage should be carefully taken into consideration during grading, landscaping, and building construction. Positive surface drainage should be provided to direct surface water away from structures and slopes and toward the street or suitable drainage devices. Ponding of water adjacent to the structures should not be allowed. Buildings should have roof gutter systems and the run-off should be directed to parking lot/street gutters by area drain pipes or by sheet flow over paved areas. Paved areas should be provided with adequate drainage devices, gradients, and curbing to prevent run-off flowing from paved areas onto adjacent unpaved areas.

Foundation performance is also dependent upon maintaining adequate surface drainage away from structures. The minimum gradient within 5 feet of the building will depend upon surface landscaping. In general, we suggest that unpaved lawn and landscape areas have a minimum gradient of 2 percent away from structures. Consideration should be given to concrete flatwork construction adjacent to the building.

Construction of planter areas immediately adjacent to structures should be avoided if possible. If planter boxes are constructed adjacent to or near buildings, the planters should be provided with controls to prevent excessive penetration of the irrigation water into the foundation and flatwork subgrades. Provisions should be made to drain excess irrigation water from the planters without saturating the subgrade below or adjacent to the planters. Raised planter boxes may be drained with weepholes. Deep planters (such as palm tree planters) should be drained with below-ground, water-tight drainage lines connected to a suitable outlet. Moisture barriers should also be considered.

It is also important to maintain a consistent level of soil moisture, not allowing the subgrade soils to become overly dry or overly wet. Properly designed landscaping and irrigation systems can help in that regard.

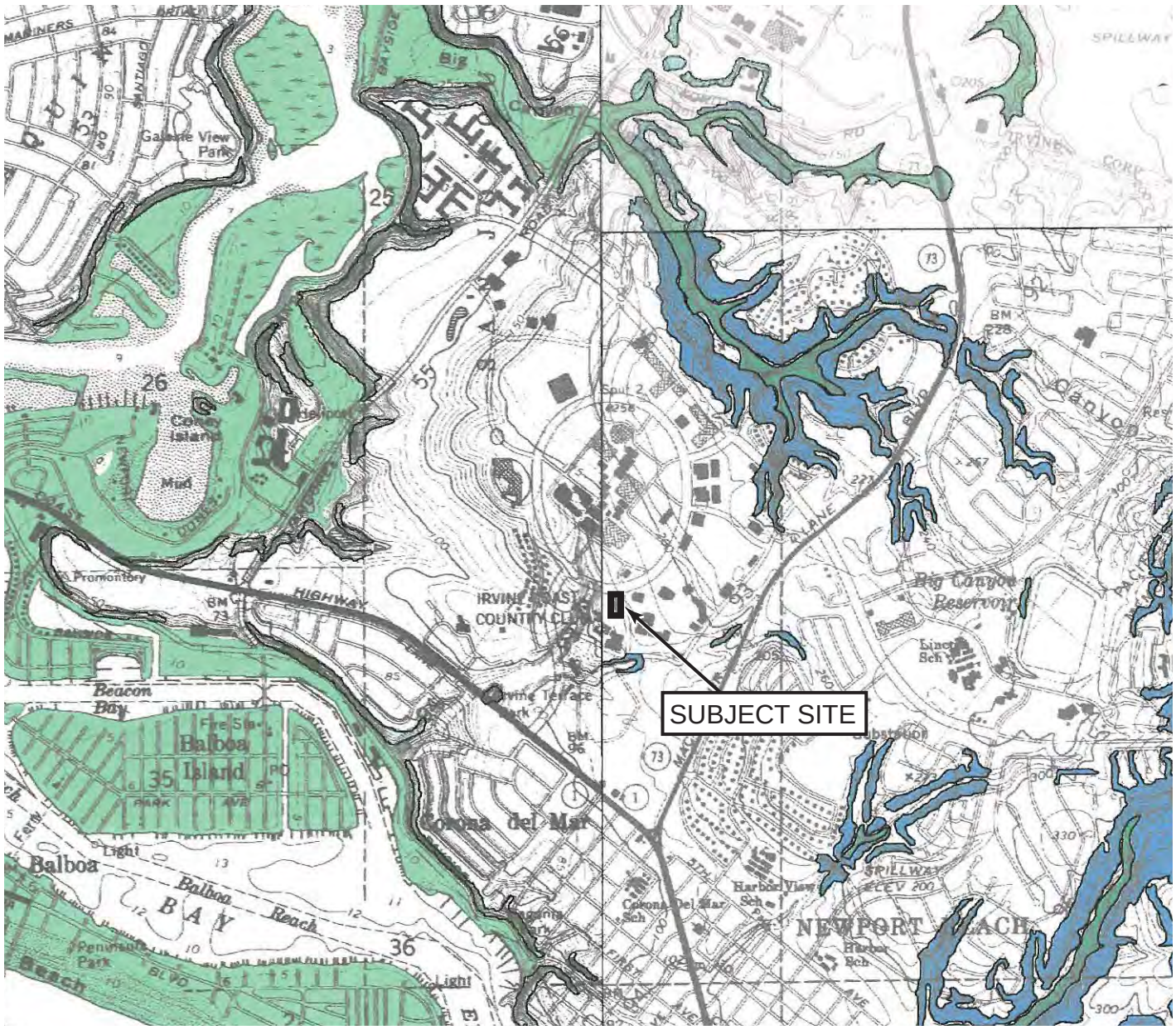
3.10 Geotechnical Investigation and Review of Future Plans

Once a grading plan becomes available, it should be reviewed by the geotechnical consultant. Additional geotechnical investigation is recommended and additional analysis will be necessary for building foundation design in relation to potential settlements and for shoring design for the subterranean structure. The geotechnical consultant will need to work closely with the structural engineer and project team during design. Once the building/grading plan is available, the final geotechnical recommendations for remedial grading and structural design will be provided. A geotechnical grading plan review report should be submitted to the city of Newport Beach for their review and approval prior to issuance of a grading and construction permit.

3.11 Geotechnical Observation and Testing During Grading and Construction

Geotechnical observation and testing should be performed by the geotechnical consultant during the following phases of grading and construction:

- During site preparation and clearing;
- During earthwork operations, including remedial removals and fill placement;
- Upon completion of any excavation for buildings or retaining walls prior to pouring concrete;
- During slab and pavement subgrade preparation (including presoaking), prior to pouring of concrete;
- During and after installation of subdrains for retaining walls and building subgrade;
- During placement of backfill for utility trenches and retaining walls; and
- When any unusual soil conditions are encountered.



Liquefaction

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslides

Areas where previous occurance of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

SITE LOCATION AND SEISMIC HAZARDS MAP

BASE: DIVISION OF MINES AND GEOLOGY SEISMIC HAZARDS MAPS,
LAGUNA BEACH, NEWPORT BEACH AND TUSTIN QUADRANGLES
Dated: April 15, 1998 and January 17, 2001

N

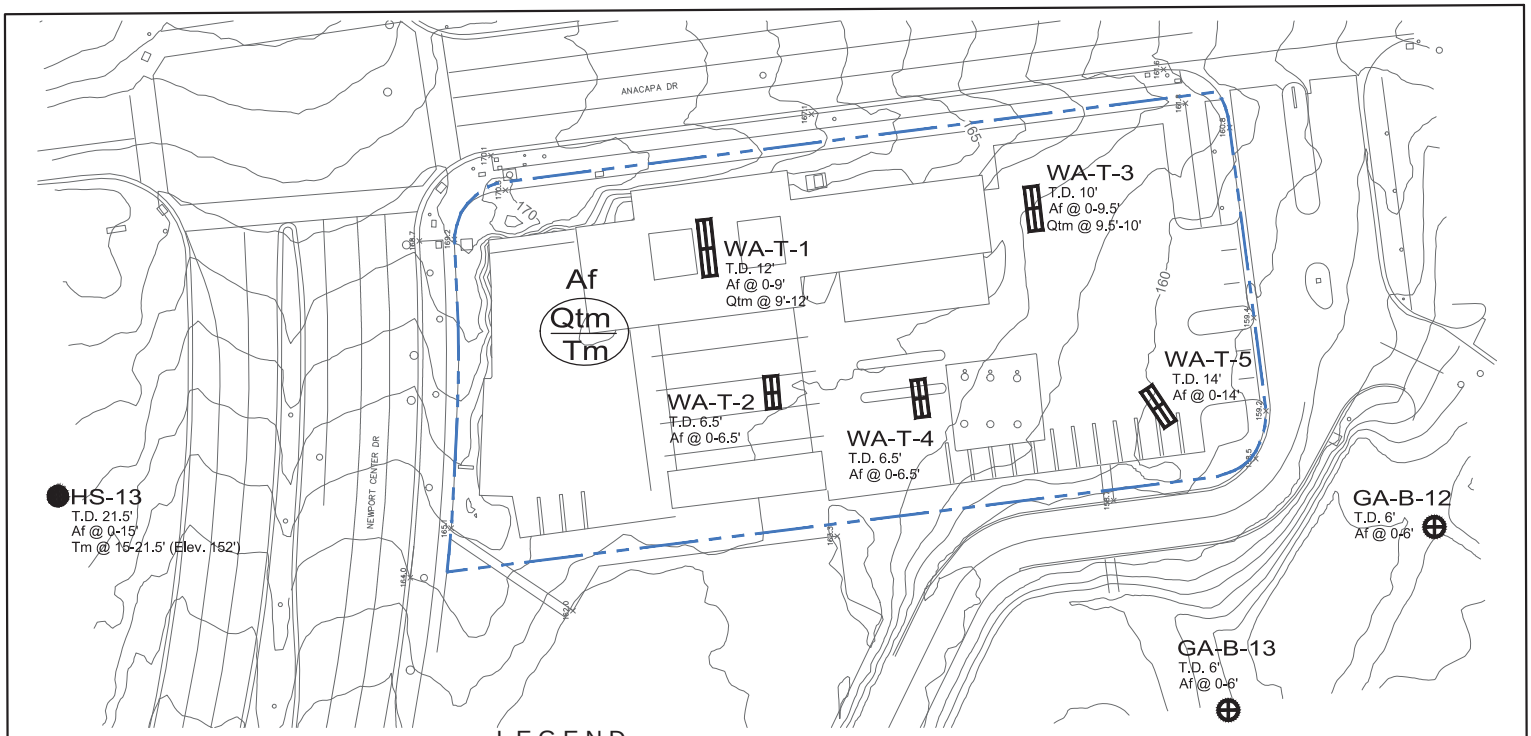
NEWPORT CENTER CONDOMINIUMS
150 NEWPORT CENTER DRIVE
CITY OF NEWPORT BEACH, CALIFORNIA

Project Number: 14117-01

Project Name: NCAA / 150 NCD

Date: 2-3-15 Figure No. 1

NMG Geotechnical, Inc.



LEGEND

SYMBOLS - LOCATIONS ARE APPROXIMATE, QUERIED WHERE UNCERTAIN

HS-13 — HOLLOW-STEM AUGER BORING BY NMG GEOTECHNICAL, INC., SHOWING TOTAL DEPTH AND DEPTH TO EARTH UNITS
T.D. 21.5'
Af @ 0-15'
Tm @ 15-21.5' (Elev. 152')

GA-B-13 — BUCKET AUGER BORING BY G.A. NICOLL, SHOWING TOTAL DEPTH AND DEPTH TO EARTH UNITS
T.D. 6'
Af @ 0-6'

WA-T-5 — TEST PIT BY W.A. WAHLER SHOWING TOTAL DEPTH AND DEPTH TO EARTH UNITS
T.D. 14'
Af @ 0-14'

EARTH UNITS - CIRCLED WHERE BURIED

Af	ARTIFICIAL FILL
Qtm	TERRACE DEPOSIT
Tm	MONTEREY FORMATION
	PROPERTY BOUNDARY

GRAPHIC SCALE

40 0 20 40 80

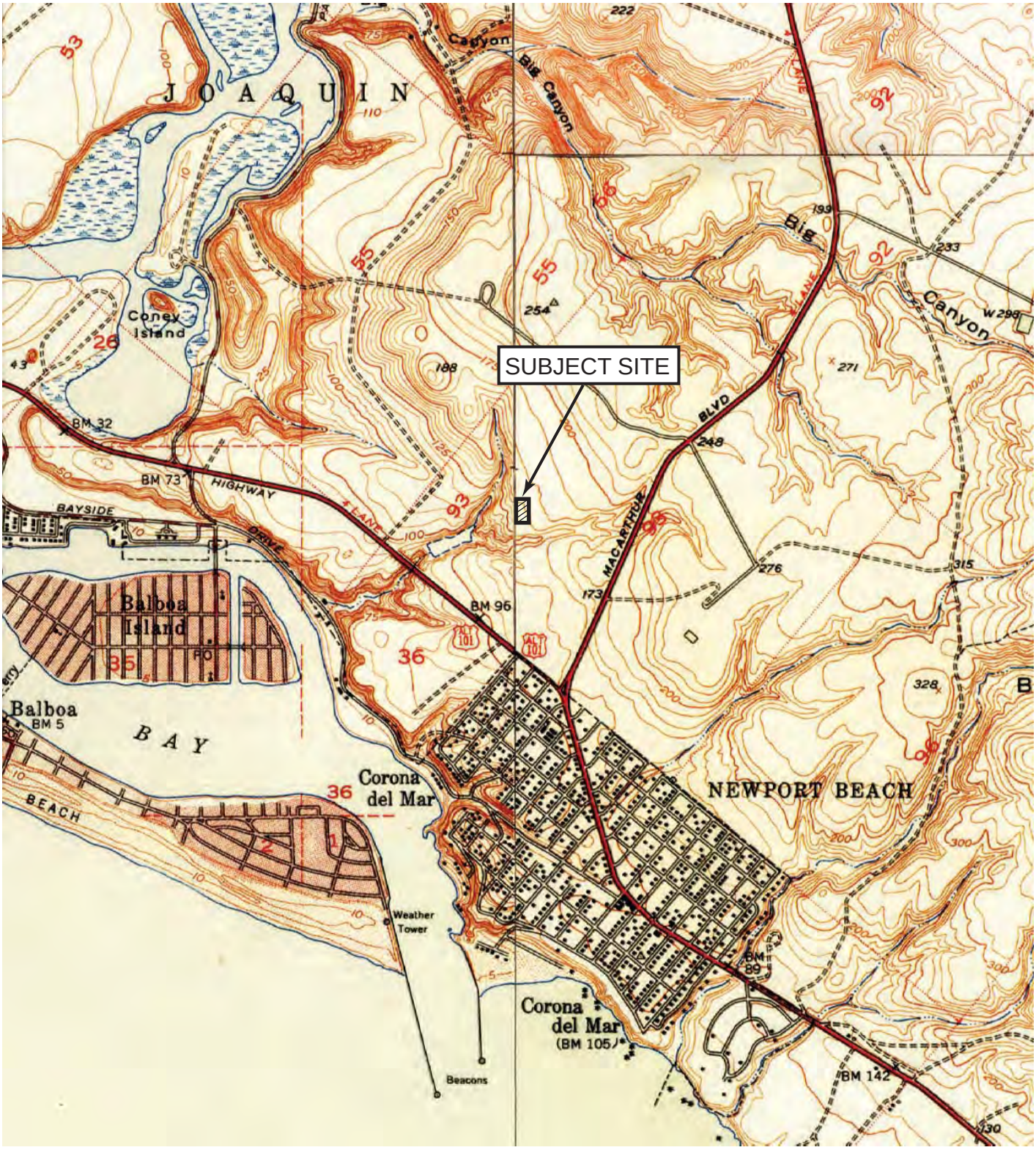
(IN FEET)
1 inch = 40 ft.

FIGURE 2

GEOTECHNICAL MAP
NEWPORT CENTER CONDOMINIUMS
150 NEWPORT CENTER DRIVE
CITY OF NEWPORT BEACH, CALIFORNIA

Project No.: 14117-01
Project Name: NCAA / 150 NCD
Date: 2-3-15 Scale: 1" = 40'

NMG Geotechnical, Inc.



SITE LOCATION AND TOPOGRAPHIC MAP

BASE: USGS TOPOGRAPHIC MAPS,
LAGUNA BEACH, NEWPORT BEACH AND TUSTIN QUADRANGLES
Dated: 1949 Through 1951

N

NEWPORT CENTER CONDOMINIUMS
150 NEWPORT CENTER DRIVE
CITY OF NEWPORT BEACH, CALIFORNIA

Project Number: 14117-01
Project Name: NCAA / 150 NCD
Date: 2-3-15 Figure No. 3

NMG Geotechnical, Inc.


Legend
GAB-17 Boring by G.A. Nicoll (1972)
HS-4 Boring by NMG Geotechnical, Inc. (2012)
MTB-3 Boring by Moore & Taber (1975)
RTF-B-3 Boring by R.T. Frankian (1994)
SIB-2 Boring By Soils International, Inc. (1988)
WAT-5 Trench by W.A. Wahler (1970)
HS-4
HS-3
HS-1
HS-12
HS-13
San Miguel Dr
MTB-3
MTB-2
MTB-1
SIB-2
SIB-1
RTF-B-3
RTF-B-2
RTF-B-1
GAB-6
GAB-7
GAB-15
WAT-1
WAT-2
WAT-4
WAT-3
GAB-5
GAB-8
GAB-9
GAB-4
GAB-13
WAT-5
Anacapa Dr
Newport Center Dr
GAB-10
GAB-3
GAB-12
GAB-16
GAB-2
GAB-11
GAB-1
GAB-17
Civic Center Dr
Google earth
© 2015 Google
300 ft
N
Boring Location Map
Newport Center Condominiums
Newport Beach, California
Figure 4
Project Name: NCAA/150 Newport Center Drive
Project No.: 14117-01

APPENDIX A

APPENDIX A
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U.S. Geological Survey, 2013b, U.S. Seismic Design Maps, web site address: http://geohazards.usgs.gov/designmaps/us/application.php

W.A. Wahler & Associates, 1970, Soil and Geologic Investigation for Newport Center Car Wash, Newport Beach, California, Project No. 0461, dated January 1970.

AERIAL PHOTOGRAPHS REVEIWED

Date	***Photograph***	***Source***
10-14-1939	5925-112	Continental Aerial Photo
11-18-1952	AXK-1K-43	Continental Aerial Photo
1-13-75	157 7-23	Continental Aerial Photo
1-20-1992	C85-13-20	Continental Aerial Photo

APPENDIX B

TEST PITS BY

W.A. WAHLER & ASSOCIATES (1970)

FOR EXISTING CARWASH

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

PRIMARY DIVISIONS				GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS — MORE THAN HALF OF MATERIALS IS LARGER THAN #200 SIEVE SIZE	GRAVELS — MORE THAN HALF OF COARSE FRACTION IS LARGER THAN #4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)		GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
				GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
		GRAVEL WITH FINES		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURE. NON-PLASTIC FINES.
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES. PLASTIC FINES.
	SANDS — MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN #4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)		SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
				SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES.
		SANDS WITH FINES		SM	SILTY SANDS, SAND-SILT MIXTURES. NON-PLASTIC FINES.
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES. PLASTIC FINES.
FINE GRAINED SOILS — MORE THAN HALF OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE	SILTS & CLAYS — LIQUID LIMIT IS LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY.
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.
	SILTS & CLAYS — LIQUID LIMIT IS GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.
HIGHLY ORGANIC SOILS				PT	PEAT AND OTHER HIGHLY ORGANIC SOILS.

DEFINITION OF TERMS

GRAIN SIZES

	U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
	200	50	10	4	3/4"	3"	8"	
SILTS & CLAYS DISTINGUISHED ON BASIS OF PLASTICITY	SAND				GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE		FINE	COARSE		

MOISTURE CONDITION (INCREASING MOISTURE ——→)

DRY — SLIGHTLY DAMP — DAMP — MOIST (PL) — VERY MOIST — WET (SATURATED) (LL)

CONSISTENCY			RELATIVE DENSITY	
CLAYS & SILTS	BLOWS/FOOT*	STRENGTH‡	SANDS & GRAVELS	BLOWS/FOOT*
Very Soft	0 – 2	0 – 1/4	Very Loose	0 – 4
Soft	2 – 4	1/4 – 1/2	Loose	4 – 10
Firm	4 – 8	1/2 – 1		
Stiff	8 – 16	1 – 2	Medium Dense	10 – 30
Very Stiff	16 – 32	2 – 4	Dense	30 – 50
Hard	Over 32	Over 4	Very Dense	Over 50

* Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split spoon (ASTM D-1586).

‡ Unconfined compressive strength in tons/sq ft. Read from a pocket penetrometer.

SOIL MECHANICS and FOUNDATION ENGINEERS Inc.

PALO ALTO • NEWPORT BEACH • CALIF.

NEWPORT CENTER CAR WASH
NEWPORT BEACH, CALIFORNIA

KEY FOR SOIL EXPLORATION LOGS

PROJECT NO.	DATE	DRAWING NO.
0461	JAN. 1970	--

LOGS OF BACKHOE PITS

TEST PIT NO.	DEPTH	DESCRIPTION	SAMPLE TYPE* AND DEPTH
1	0-4.5	FILL: SAND (SP & SW), Clayey SAND (SW-SC), and CLAY (CL) in horizontal layers 2" to 6" thick. Brown, damp, medium dense, and firm. Sparse scattered hard SHALE gravel and cobbles.	U @ 2"
	4.5-9	FILL: SAND (SP) with a few Clayey SAND (SP-SC) layers. Layers horizontal, 1" to 8" thick. Brown, slightly damp, medium dense.	U @ 4.5' U @ 6' B @ 8'
	9-10	Silty SAND (SM) and Sandy CLAY (CL), dark brown, slightly damp, stiff and medium dense. Original ground surface at 9.0 feet.	U @ 9'
	10-12	CLAY (CL), dark brown, slightly damp, very stiff.	
2	0-6.5	FILL: SAND (SP) and Clayey SAND (SC) in horizontal layers 2" to 8" thick. Red-brown, slightly damp to damp, medium dense. Sparse scattered gravel of hard SHALE.	B @ 3"-1'
3	0-5	FILL: SAND (SP) and Clayey SAND (SP-SC, SC) in horizontal layers 2" to 6" thick. Red-brown, slightly damp, medium dense.	U @ 1.5' U @ 3.5'
	5-9.5	FILL: SAND (SP) with minor Clayey SAND (SP-SC) in horizontal layers 1" to 6" thick. Red-brown, slightly damp, medium dense.	U @ 5' U @ 7.5' U @ 9'
	9.5-10	MARINE TERRACE: Silty SAND (SM), dark brown, slightly damp, medium dense. Original ground surface with undisturbed grass at 9.5 feet.	

LOGS OF BACKHOE PITS

TEST PIT NO.	DEPTH	DESCRIPTION	SAMPLE TYPE* AND DEPTH
4	0-4	FILL: SAND (SP) and Clayey SAND (SP-SC) in horizontal layers 2" to 8" thick. Red-brown, slightly damp, medium dense.	
	4-5	FILL: CLAY (CL) with scattered hard SHALE gravel and cobbles. Greenish-gray, slightly damp to damp, firm.	U @ 4.5'
	5-6.5	FILL: SAND (SP) and Clayey SAND (SP-SC) in horizontal layers 1" to 6" thick. Red-brown, slightly damp, medium dense.	
5	0-7.5	FILL: SAND (SP), Clayey SAND (SP-SC), and Sandy CLAY (CL) in horizontal layers 4" to 6" thick. Red-brown and gray, damp, medium dense and firm.	B @ 1'-4'
	7.5-10.5	FILL: SAND (SW), homogenous, slightly damp, moist at 10.0', medium dense.	
	10.5-11.5	FILL: Silty SAND (SM), dark gray, damp to moist, medium dense.	U @ 11'
	11.5-13	FILL: Sandy CLAY (CH) and Clayey SAND (SC), dark gray, moist to damp, medium dense and firm.	B @ 13'
	13-14	FILL: SAND (SP), red-brown, slightly damp, medium dense.	U @ 14'

NOTES:
1. No caving.
2. Groundwater not encountered.
3. All pits backfilled.
*4. U = undisturbed sample; B = bulk sample.

BORING LOGS BY NMG

FOR PADS B & C AT FASHION ISLAND (2012a & b)

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	*GRAVEL AND GRAVELLY SOILS* MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	*CLEAN GRAVELS* (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	*CLEAN SANDS* (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	*SILTS AND CLAYS*	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Dual symbols are used to indicate gravels or sand with 5-12% fines and soils with fines classifying as CL-ML. Symbols separated by a slash indicate borderline soil classifications.

Sampler and Symbol Descriptions

- Modified California sample (63.5 mm diameter)
- Standard Penetration Test
- Undisturbed pushed tube sample
- Large bulk sample
- Small bulk sample
- Approximate depth of perched water or groundwater

Note: Number of blows required to advance driven sample 300 mm (or length noted) is recorded; blow count recorded for seating interval (initial 150 mm of drive) is indicated by an asterisk.

Laboratory and Field Test Abbreviations

MD	Laboratory compaction test
CN	Laboratory consolidation test
DS	Laboratory direct shear test
AL	Atterberg limits
SE	Sand Equivalent
GS	Grain Size Analysis (Sieve and/or Hydro.)
RV	R-Value
CC	Chemical Testing incl. Soluble Sulfate
EI	Expansion Index
UU	Unconsolidated Shear Strength

GENERAL NOTES

1. Station location is indicated with offset to right (R) or left (L) of centerline (CL).
2. Soil classifications are based on the Unified Soil System and include color, moisture, and relative density or consistency. Field descriptions have been modified to reflect results of laboratory tests where deemed appropriate. Bedrock descriptions are based on visual classification and include rock type, moisture, color, grain size, strength, and weathering.
3. Descriptions on these boring logs apply only at the specific boring locations and at the time the borings were made. They are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO LOG OF BORING

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

Report: HOLLOW STEM Project: P:\2008\08034-01\GINT\08034-01 GPJ, Data Template: NMGNOV98.GDT, Printed: 2/27/12

Date(s) Drilled	6/2/08	Logged By	PA
Drilling Company	2R Drilling	Drill Bit Size/Type	8"
Drill Rig Type	CME-75	Hammer Data	140lbs/ 30" drop
Sampling Method(s)	Bulk, Modified California		
Approximate Groundwater Depth:	Groundwater Not Encountered		
Comments			

HS- 1

Sheet 1 of 2

Total Depth Drilled (ft)	41.0
Approximate Ground Surface Elevation (ft)	171.5

Elevation (ft)	Depth (ft)	SAMPLES Type	SAMPLES Number	SAMPLES Blows per foot	Graphic Log	USCS	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	OTHER TESTS and REMARKS
	0						@ 0' Asphalt, 4" thick over 6" base.			
170						SM	**Artificial Fill (Af)**			
			B-1							Bag B-1 (0-5')
			D-1	13			@ 2.5' Strong brown slightly silty SAND, locally slightly clayey, moist, medium dense, massive, slightly to moderatly friable, no visable roots/ pores.	10.5	109.6	
	5		D-2	5			@ 5' Strong brown slightly silty SAND, wet, loose, moderatly friable, massive, non-cemented.	8.5	108.3	
			D-3	12		SC	@ 7.5' Brown to olive brown clayey SAND, wet, medium dense, root hairs/ pores, MnO/ FeO stining.	14.6	119.2	
	10		D-4	25		SC/ ML	@ 10' Olive clayey fine SAND with abundant siltstone clasts, moist, medium dense, MnO/ FeO staining, slightly plastic.	15.6	113.6	
160										
	15		D-5	20		SM	**Terrace, Marine (Qtm)** @ 15' Brownish yellow and light olive SAND, moist, medium dense, heavy FeO staining, color banding, micaceous.	12.2	98.3	
	20		D-6	70/11.5"		SM	**Monterey Formation (Tm)** @ 20' Light olive gray silty SANDSTONE, moist, dense, heavy FeO staining, MnO lined fractures/ bedding.	19.4	97.7	
150										
	25		D-7	79/11"			@ 25' Light gray silty SANDSTONE, slightly moist, dense, locally FeO stained, micaceous.	6.3	105.2	
	30									

LOG OF BORING

Fashion Island/ Eastside
Fashion Island Retail Center
PROJECT NO. 08034-01

NMG

Elevation (ft)	Depth (ft)	SAMPLES Type	SAMPLES Number	SAMPLES Blows per foot	Graphic Log	USCS	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	OTHER TESTS and REMARKS
140	30	D	8	79			@ 30' Light brownish gray silty SANDSTONE, moist, dense, micaceous, massive, FeO staining.	9.1	104.7	
	35	D	9	50/3"			@ 35' Light olive gray silty SANDSTONE, slightly moist, dense, micaceous, MnO/ FeO staining.	8.1	94.2	
130	40	D	10	78/11"		ML/ SM	@ 41' Strong brown and olive gray sandy SILTSTONE and silty SANDSTONE, moist, locally laminated, FeO/ MnO stained bedding surfaces, micaceous, gypsum along fractures.	22.7	96.8	
120	45						Notes: Total Depth: 41 ft. Groundwater Not Encountered. Backfilled With Cuttings. Asphalt Patched.			
110	50									
	55									
	60									
	65									

LOG OF BORING

Fashion Island/ Eastside
Fashion Island Retail Center

PROJECT NO. 08034-01

NMG

Report: HOLLOW STEM; Project: P:\2008\08034-01\GINT\08034-01.GPJ; Data Template: NMGNOV98.GDT; Printed: 2/27/12

Date(s) Drilled	6/3/08	Logged By	PA
Drilling Company	2R Drilling	Drill Bit Size/Type	8"
Drill Rig Type	CME-75	Hammer Data	140lbs/ 30" drop
Sampling Method(s)	Bulk, Modified California		
Approximate Groundwater Depth:	Groundwater Not Encountered		
Comments			

HS-3

Sheet 1 of 1

Total Depth Drilled (ft)	26.0
Approximate Ground Surface Elevation (ft)	182.5

Elevation (ft)	Depth (ft)	SAMPLES Type	SAMPLES Number	SAMPLES Blows per foot	Graphic Log	USCS	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	OTHER TESTS and REMARKS
	0						@ 0' Asphalt, 4", over 4.5" base.			
						SM	**Artificial Fill (Af)**			
180			B-1					8.6	113.0	Bag B-1 (0-5')
			D-2	40		SM/ SC	@ 2.5' Upper: Brownish yellow silty SAND, moist, medium dense, micaceous. Tip: Very dark gray silty SAND, moist, dense, wood fragments, roots, micaceous.	6.0	118.9	AL, GS, MD, EI, CC, CN, DS
	5		D-3	23			@ 5' Dark brown slightly clayey SAND, moist, medium dense, mica, roots, MnO staining, slightly plastic, pores/ rootholes.	12.1	122.6	
							Terrace, Marine (Qtm)			
			D-4	50/5"		SM	@ 7.5' Olive brown silty SAND, moist, dense, -Disturbed Sample-.	12.0	109.7	
	10		D-5	72/9.5"			@ 10' Brown silty SAND, moist to very moist, dense, micaceous, FeO staining, non-friable.	12.3	110.0	
170										
	15		D-6	32		SM	**Monterey Formation (Tm)** @ 15' Pale olive fine SANDSTONE, moist, medium dense, micaceous, locally heavy FeO staining, lightly cemented.	9.3	102.7	
	20		D-7	32			@ 20' Olive silty fine to medium coarse SANDSTONE with graded beds, very moist, medium dense, scattered small pebbles, FeO/ MnO/ jarosite staining, micaceous, lightly cemented.	14.6	110.4	
160										
	25		D-8	32		ML	@ 25' Light olive gray SILTSTONE, moist, medium dense, heavy FeO/ MnO staining, micaceous, moderately fractured.	24.6	95.3	
	30						Notes: Total Depth: 26 ft. Groundwater Not Encountered. Backfilled With Cuttings. Asphalt Patched.			

LOG OF BORING

Fashion Island/ Eastside
Fashion Island Retail Center
PROJECT NO. 08034-01

NMG

Date(s) Drilled	6/2/08	Logged By	PA
Drilling Company	2R Drilling	Drill Bit Size/Type	8"
Drill Rig Type	CME-75	Hammer Data	140lbs/ 30" drop
Sampling Method(s)	Bulk, Modified California		
Approximate Groundwater Depth:	Groundwater Not Encountered		
Comments			

HS-4

Sheet 1 of 1

Total Depth Drilled (ft)	26.0
Approximate Ground Surface Elevation (ft)	178.0

Elevation (ft)	Depth (ft)	SAMPLES Type	SAMPLES Number	Blows per foot	Graphic Log	USCS	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	OTHER TESTS and REMARKS
	0						@ 0' Asphalt, 4", over 4" base.			
						SP/ SM	**Artificial Fill (Af)**			
			D-1	37			@ 2.5' Strong brown slightly silty SAND, medium dense, very moist, slightly micaceous.	7.9	114.0	
	5		D-2	40			@ 5' Brown slightly silty SAND, medium dense, very moist, slightly friable, no visible roots/ pores.	9.0	117.6	
170			D-3	6		SM	@ 7.5' Dark brown silty SAND, loose, saturated, root hairs, pores, slightly friable.	16.2	115.0	
	10		D-4	6		SM	**Terrace, Marine (Qtm)** @ 10' Yellowish brown slightly clayey fine to medium coarse SAND, loose, very moist, pores, root hairs.	16.1	112.1	
	15		D-5	38			@ 15' Light olive brown silty SAND, medium dense, moist, micaceous, non-friable, occasional root holes.	12.5	116.2	
160										
	20		D-6	51		ML	**Monterey Formation (Tm)** @ 20' Light olive gray slightly clayey SILTSTONE with trace sand, moist, dense, FeO/ MnO staining along joints/ bedding, micaceous.	24.8	91.5	
	25		D-7	32		SM	@ 25' Yellow to pale yellow SANDSTONE, moist, medium dense, micaceous, massive, non-friable.	7.5	102.8	
150							Notes: Total Depth: 26 ft. Groundwater Not Encountered. Backfilled With Cuttings. Asphalt Patched.			
	30									

LOG OF BORING

Fashion Island/ Eastside
Fashion Island Retail Center
PROJECT NO. 08034-01

NMG

Date(s) Drilled	6/22/12	Logged By	PA
Drilling Company	2R Drilling	Drill Bit Size/Type	8"
Drill Rig Type	CME-75 Track Rig	Hammer Data	140lbs @ 30" Drop
Sampling Method(s)	Bulk, Modified California		
Approximate Groundwater Depth:	Groundwater Not Encountered		
Comments			

HS-12

Sheet 1 of 1

Total Depth Drilled (ft)	21.5
Approximate Ground Surface Elevation (ft)	175.0

Elevation (ft)	Depth (ft)	SAMPLES Type	SAMPLES Number	SAMPLES Blows per foot	Graphic Log	USCS	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	OTHER TESTS and REMARKS
	0					SM	**Artificial Fill (Af)** Surface: Turf			
			B-1 D-1	32			@ 2.5' Reddish brown silty SAND, moist, medium dense, massive, well-sorted.	8.2	115.6	B-1 @ 0-5' MD, GS, EI, CC
170	5		D-2	28			@ 5' Reddish brown silty SAND, moist, medium dense, massive, well-sorted.	8.2	107.9	DS
			D-3	11		CL	**Weathered Marine Terrace (Qtm)** @ 7.5' Pale gray to reddish brown silty sandy CLAY, moist, medium stiff, root hairs, pores.	22.8	105.9	CN
	10		D-4	44		CL	**Marine Terrace (Qtm)** @ 10' Pale olive sandy CLAY, moist, stiff, massive, FeO staining, locally sandy.	14.5	119.1	
160	15		D-5	39		ML	**Monterey Formation (Tm)** @15' Pale gray SILTSTONE, damp, medium dense, local sandstone, heavy FeO staining.	28.2	90.5	
	20		D-6	44			@ 20' Pale gray clayey SILTSTONE, moist, stiff, FeO staining, thinly laminated, scattered sandstone beds.	15.0	98.5	
150	25						Notes: Total Depth 21.5 Feet. No Groundwater Encountered. Backfilled with Cuttings and Tamped.			
	30									

LOG OF BORING

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG

Date(s) Drilled	6/22/12	Logged By	PA
Drilling Company	2R Drilling	Drill Bit Size/Type	8"
Drill Rig Type	CME-75 Track Rig	Hammer Data	140lbs @ 30" Drop
Sampling Method(s)	Bulk, Modified California		
Approximate Groundwater Depth:	Groundwater Not Encountered		
Comments			

HS-13

Sheet 1 of 1

Total Depth Drilled (ft)	21.5
Approximate Ground Surface Elevation (ft)	167.0

Elevation (ft)	Depth (ft)	SAMPLES Type	SAMPLES Number	SAMPLES Blows per foot	Graphic Log	USCS	MATERIAL DESCRIPTION	Moisture Content (%)	Dry Density (pcf)	OTHER TESTS and REMARKS
	0					SM	**Artificial Fill (Af)** Surface: 4" AC over 6" AB.			
			B-1 D-1	29			@ 2.5' Reddish brown silty SAND, moist, medium dense, massive, slightly mottled.	12.2	118.0	DS B-1 @ 0-5' MD, EI, CC, GS, AL
	5		D-2	38			@ 5' Reddish brown silty SAND, moist, medium dense, massive, well-sorted, uniform.	10.1	126.2	
160			D-3	21			@ 7.5' Reddish brown silty SAND, moist, medium dense, massive, well-sorted, bedrock fragments in upper rings.	16.5	111.6	CN
	10		D-4	34			@ 10' Reddish brown silty SAND, moist, medium dense, massive, well-sorted.	12.1	120.6	
			D-5	17			@ 12.5' Reddish brown silty SAND, saturated, medium dense, massive.	14.6	113.2	
	15		D-6	30		ML-CL	**Monterey Formation (Tm)** @ 15' Olive gray clayey SILTSTONE, moist, stiff, massive, weathered.	22.8	98.2	
150										
	20		D-7	50/5"		SM	@ 20' Very pale gray silty fine-grained SANDSTONE, damp, very dense, massive, FeO staining.	11.4	112.2	
							Notes: Total Depth 21.5 Feet. No Groundwater Encountered. Backfilled with Cuttings and Tamped.			
	25									
140										
	30									

LOG OF BORING

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG

BORING LOGS BY

G.A. NICOLL & ASSOCIATES
(1972)

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS (More than 50% of material is LARGER than No. 200 sieve size)	GRAVELS (More than 50% of coarse fraction is LARGER than the No. 4 sieve size)	CLEAN GRAVELS (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (Appreciable amt. of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)	CLEAN SANDS (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amt. of fines)	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS (More than 50% of material is SMALLER than No. 200 sieve size)	SILTS AND CLAYS (Liquid limit LESS than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS (Liquid limit GREATER than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils.

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

PARTICLE SIZE LIMITS

SILT OR CLAY	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

NO. 200 NO. 40 NO. 10 NO. 4 3/4 in. 3 in. (12 in.)

U. S. STANDARD SIEVE SIZE

PLATE A

UNIFIED SOIL CLASSIFICATION SYSTEM

Reference:
The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. I, March, 1953. (Revised April, 1960)

G. A. NICOLL & ASSOCIATES
EARTH SCIENCE CONSULTANTS

DRILL RIG: Bucket Auger	HOLE ELEV.: 152 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								CL	FILL - BROWN TO GREY SILTY CLAY, MOIST, FIRM
7		X		21.0	96.0				
								SC	- TAN CLAYEY FINE SAND, MOIST, MEDIUM DENSE
10		X		8.1	128.0	5		SM	- REDDISH BROWN SILTY FINE SAND, MOIST, MEDIUM DENSE
								SM	- TAN SILTY SAND, FINE, MOIST, MEDIUM DENSE
								SM	TERRACE DEPOSITS
15		X		8.1	115.9	10			- BROWN TO REDDISH BROWN SILTY SAND, MOIST, DENSE
								GM	- WITH COBBLES TO 8 INCHES

NOTES:

1) GROUND WATER ABSENT
2) NO CAVING
3) HOLE BACKFILLED
4) TOTAL DEPTH 14 FEET
5) DRIVING WEIGHT FOR SAMPLES IS 1500 POUND KELLY BAR
6) Boring stopped due to cobbles

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILLHOLE LOG			HOLE NO.
		Project no.	date	sheet	B-1
		1010	Nov. 1972	1 of 1	

DRILL RIG: Bucket Auger | HOLE ELEV.: 150 feet | LOGGED BY: GAN

GROUNDWATER DEPTH: None | HOLE DIA.: 24 inch | DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL - TAN SANDY SILT WITH SHALE FRAGMENTS, MOIST
									- BROWN SILTY SAND
6		X		12.6	115.2				- TAN SANDY SILT
									- BROWN SILTY FINE SAND
6		X		17.6	100.5	5			
								CL	- GREY CLAY WITH SHALE FRAGMENTS
								SM	- TAN TO REDDISH BROWN SILTY SAND, MOIST,
14		X		8.7	116.0	10			DENSE
								SM	- GREY SILTY SAND, MOIST DENSE
21		X		10.8	121.0	15		SM	SOIL - GREY SILTY SAND, MOIST, DENSE
									TERRACE DEPOSITS
								SM	- TAN SILTY SAND AND SAND, MOIST, VERY DENSE
17		X		7.7	124.5	20			- SAME BUT GREY
16		X		8.5	124.1	25			- BECOMES REDDISH BROWN
									- WITH GRAVEL OF SILICEOUS SHALE FRAGMENTS
						30		-	BEDROCK - MONTEREY FORMATION
									- GREY SHALE AND TAN SANDSTONE, INTERBEDDED, BEDS 1/4 inch to paper-thin THICKNESS. CONTACT: N45W, 15°SW; BEDDING: N35W, 45SW
						35			

NOTES:

1) TOTAL DEPTH 36 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER IS 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES

Block 100
Newport Center
The Irvine Company

DRILL HOLE LOG

Project no.	date	sheet	HOLE NO.
1010	Nov. 1972	1 of 1	B-2

DRILL RIG: Bucket Auger	HOLE ELEV.: 150 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – TAN SILTY SAND, DRY, LOOSE
11		X		10.0	113.2			SM	– TAN SILTY SAND, MOIST, MEDIUM DENSE
6		X		13.1	110.7	5			– LOCAL LENSES OF REDDISH BROWN SILTY SAND OR POCKETS OF GREY CLAY
11		X		13.2	104.8	10			
						15			
						20		SM	SOIL – GREY SILTY SAND, MOIST, DENSE
								SM	TERRACE DEPOSITS – GREY SILTY SAND, MOIST, DENSE

NOTES:
1) TOTAL DEPTH 24 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER IS 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG			HOLE NO.
		Project no.	date	sheet	B-3
		1010	Nov. 1972	1 of 1	

DRILL RIG: Bucket Auger		HOLE ELEV.: 153 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None		HOLE DIA.: 24 inch	DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – TAN SILTY SAND, DRY, LOOSE
5		X		10.8	110.0			SM	– REDDISH BROWN SILTY SAND, MOIST, MEDIUM DENSE
									– LOCALLY TAN
10		X		16.5	105.3	5		CL	– GREY AND BROWN CLAY, SOME SHALE FRAGMENTS AND SAND, MOIST, HARD
									– GREY TO REDDISH BROWN
17		X		10.8	94.3	10		SM	SILTY SAND, MOIST, DENSE
						15			– OCCASIONAL CLAY LAYER OR SHALE FRAGMENTS
						20			
								SM	SOIL – GREY SILTY SAND, MOIST, DENSE
						25		SM	TERRACE DEPOSITS – REDDISH BROWN SILTY SAND, MOIST, VERY DENSE

NOTES:
1) TOTAL DEPTH 26 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER IS 1520 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILLHOLE LOG		HOLE NO.
		Project no.	date / sheet	
		1010	Nov. 1972 / 1 of 1	B-4

DRILL RIG: Bucket Auger	HOLE ELEV.: 152 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL - TAN SILTY SAND, DRY, LOOSE
								SM	- TAN SILTY SAND, MOIST, MEDIUM DENSE
8		X		15.9	105.1			CL	- GREY CLAY, SHALE FRAGMENTS, SAND LENSES
12		X		12.9	125.2	5		SM	- REDDISH BROWN AND TAN SILTY SAND
17		X		9.7	105.9	10			- WITH GREY CLAY LAYERS
						15			
						20			
						25			
						30		GP	- COBBLES WITH DARK GREY SILTY SAND
						35		--	BEDROCK - MONTEREY FORMATION SHALE WITH INTERBEDS OF SANDSTONE. CONTACT FRACTURED. BEDDING: N84W, 24SW

NOTES:
1) TOTAL DEPTH 38 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER - 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG			HOLE NO.
		Project no.	date	sheet	B-5
		1010	Nov. 1972	1 of 1	

DRILL RIG: Bucket Auger | HOLE ELEV.: 153 feet | LOGGED BY: GAN

GROUNDWATER DEPTH: None | HOLE DIA.: 24 inch | DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL - TAN SILTY SAND, DRY, LOOSE
8		X		7.9	116.9			SM	- BROWN SILTY SAND, MOIST, MEDIUM DENSE
12		X		10.8	109.7	5			- LOCAL REDDISH BROWN CLAYEY SAND, SCATTERED GRAVEL
						10			
11		X		10.6	113.0				
						15			
						20			
								CL	- BLACK CLAY, MOIST, STIFF
						25		SM	- REDDISH BROWN SILTY SAND, MOIST, MEDIUM DENSE
								SM	- DARK GREY SILTY SAND, MOIST, MEDIUM DENSE, ROOTS.
						30			- BECOMES GREEN AND GREY
						35		SM	- REDDISH BROWN SILTY SAND, SOME GREY CLAY AND SHALE FRAGMENTS
						40			
									BEDROCK - MONTEREY FORMATION SHALE AND SANDSTONE
						45			

NOTES: 1) TOTAL DEPTH 45½ FT. 2) NO CAVING 3) HOLE BACKFILLED 4) SAMPLE DRIVING WEIGHT IS 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES

Block 100
Newport Center
The Irvine Company

DRILL HOLE LOG

Project no.	date	sheet	HOLE NO.
1010	Nov. 1972	1 of 1	B-6

DRILL RIG: Bucket Auger	HOLE ELEV.: 150 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – TAN SILTY SAND, DRY, LOOSE
									– BECOMES BROWN, MOIST, MEDIUM DENSE
2		X		9.6	104.3				
6		X		10.0	107.3	5			
									– LOCALLY REDDISH BROWN
						10			
						15			
5		X		15.1	109.3	20			
						25			
						30			
								GM	– COBBLES
						35			BEDROCK – MONTEREY FORMATION
									SHALE, SOME SANDSTONE

NOTES:
1) TOTAL DEPTH 36 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLE DRIVING WEIGHT, 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILLHOLE LOG		HOLE NO.
		Project no.	date	sheet
		1010	Nov. 1972	1 of 1
				B-7

DRILL RIG: Bucket Auger	HOLE ELEV.: 146 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 3, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
4		X		18.5	97.3	0		SM	FILL – TAN SILTY SAND, DRY LOOSE
									– BECOMES BROWN TO REDDISH BROWN, MOIST, MEDIUM DENSE
8		X		13.4	104.2	5			
									– LENS OF GREY CLAY
						10			
6		X		14.5	113.1	15			
						20			
						25			
						30			– GREY SILTY SAND
									– REDDISH BROWN SILTY SAND
						35			– WITH COBBLES
						40		–	BEDROCK – MONTEREY FORMATION SHALE AND SANDSTONE

NOTES:
1) TOTAL DEPTH 40 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLER DRIVING WEIGHT IS 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG			HOLE NO.
		Project no.	date	sheet	
		1010	Nov. 1972	1 of 1	B-8

DRILL RIG: Bucket Auger | HOLE ELEV.: 147 | LOGGED BY: GAN

GROUNDWATER DEPTH: None | HOLE DIA.: 24 inch | DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL - TAN SILTY SAND, DRY, LOOSE
									REDDISH BROWN SILTY SAND
4		X		8.0	105.5				MOIST, MEDIUM DENSE
10		X		24.0	96.9	5			
								CL	- GREY SANDY CLAY, MOIST, STIFF
								SM	- REDDISH BROWN SILTY
20		X		9.9	105.8	10			SAND, MOIST, MEDIUM DENSE
						15			
						20			
								CL	
						25		SM	
						30			
								CL	- GREY CLAY WITH SHALE
									FRAGMENTS
									BEDROCK - MONTEREY FORMATION
									SHALE & SANDSTONE

NOTES:

1) TOTAL DEPTH 39 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER: 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES

Block 100
Newport Center
The Irvine Company

DRILL HOLE LOG

Project no.	date	sheet	HOLE NO.
1010	Nov. 1972	1 of 1	B-9

DRILL RIG: Bucket Auger		HOLE ELEV.: 147 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None		HOLE DIA.: 24 inch	DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
		X		21.7	97.1			SM	FILL - BROWN AND REDDISH BROWN SILTY FINE SAND, MOIST, MEDIUM DENSE
		X		22.8	98.8	5			- LAYERS OF GREY AND BROWN SILTY CLAY
		X		15.2	112.9	10			- TAN SILTY FINE SAND
						15			- REDDISH BROWN SILTY FINE SAND
						20			

NOTES:
1) TOTAL DEPTH 20 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLER DRIVING WEIGHT IS 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILLHOLE LOG			HOLE NO.
		project no.	date	sheet	
		1010	Nov. 1972	1 of 1	B-10

DRILL RIG: Bucket Auger		HOLE ELEV.: 142 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None		HOLE DIA.: 24 inch	DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL — BROWN SILTY SAND, DRY, LOOSE — MOIST BELOW 1 FOOT
6		X		11.6	100.6				
4		X		20.1	100.0	5			
								CL	— GREY SILTY CLAY
								SM	— REDDISH BROWN SILTY SAND WITH SOME GREY CLAY.
10		X		17.3	106.7	10			
								CL	— DARK GREY SILTY CLAY, SOME ROOTS, GRAVEL
						15		SM	— REDDISH BROWN SILTY SAND, MOIST, MEDIUM DENSE — BECOMES GREY WITH SOME ORGANICS
8		X		8.8	127.7	20			
								SM	— REDDISH BROWN SILTY SAND
						25			

NOTES:
1) TOTAL DEPTH 25 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLER DRIVEN BY 1500 POUND KELLY

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG		HOLE NO.
		project no.	date	sheet
		1010	Nov. 1972	1 of 1
				B-11

DRILL RIG: Bucket Auger		HOLE ELEV.: 154 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None		HOLE DIA.: 24 inch	DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – REDDISH BROWN SILTY SAND, DRY LOOSE
8		X		11.4	109.2				– MOIST AND MEDIUM DENSE
								CL	– SOME GREY SILTY CLAY
6		X		25.5	96.2	5		SM	LAYERS

NOTES:
1) TOTAL DEPTH 6 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER – 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG		HOLE NO.
		Project no.	date	sheet
		1010	Nov. 1972	1 of 1
				B-12

DRILL RIG: Bucket Auger	HOLE ELEV.: 154 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL — TAN SILTY SAND, DRY, LOOSE
8		X		9.7	117.5				— BECOMES MOIST, MEDIUM DENSE
6		X		26.8	94.8	5		CL	— WITH GREY SILTY CLAY LAYERS
									NOTES: 1) TOTAL DEPTH 6 FEET 2) NO CAVING 3) HOLE BACKFILLED 4) SAMPLER DRIVING WEIGHT IS 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG			HOLE NO.
		Project no.	date	sheet	B-13
		1010	Nov. 1972	1 of 1	

DRILL RIG: Bucket Auger	HOLE ELEV.: 161 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None	HOLE DIA.: 24 inch	DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL - TAN SILTY SAND, DRY, LOOSE
2		X		7.9	106.1				- MOIST, LOOSE
						5			- BECOMES MEDIUM DENSE
14		X		8.2	109.2				
						10			

NOTES:
1) TOTAL DEPTH 10 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLER DRIVEN BY 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG			HOLE NO.
		project no.	date	sheet	B-14
		1010	Nov. 1972	1 of 1	

DRILL RIG: Bucket Auger		HOLE ELEV.: 145 feet	LOGGED BY: GAN
GROUNDWATER DEPTH: None		HOLE DIA.: 24 inch	DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – SILTY SAND, DRY, LOOSE
									– MOIST, MEDIUM DENSE
									– LOCAL CLAYEY SILT
16		X		16.5	109.8	5			

NOTES:
1) TOTAL DEPTH 6 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) DRIVING WEIGHT FOR SAMPLER – 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILL HOLE LOG		HOLE NO.
		Project no.	date	sheet
		1010	Nov. 1972	1 of 1
				B-15

DRILL RIG: Bucket Auger | HOLE ELEV.: 122 feet | LOGGED BY: GAN

GROUNDWATER DEPTH: None | HOLE DIA.: 24 inch | DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – TAN SILTY SAND, DRY, LOOSE
									– MOIST, MEDIUM DENSE
8		X		10.2	110.7				– LOCAL REDDISH BROWN SANDY CLAY
						5			

NOTES:
1) TOTAL DEPTH 5 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLE DRIVING WEIGHT – 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	DRILLHOLE LOG			HOLE NO.
		Project no.	date	sheet	
		1010	Nov. 1972	1 of 1	B-16

DRILL RIG: Bucket Auger | HOLE ELEV.: 142 feet | LOGGED BY: GAN

GROUNDWATER DEPTH: None | HOLE DIA.: 24 inch | DATE: Nov. 4, 1972

blows/foot	sampler: bulk	sampler: split spoon	sampler: tube	moisture (%)	dry density (pcf)	depth (feet)	soil symbol	soil type	DESCRIPTION AND REMARKS
								SM	FILL – TAN SILTY SAND, DRY, LOOSE
									– MOIST, MEDIUM DENSE
								CL	– GRAY CLAY, MOIST, STIFF
20		X		7.1	109.2	5		SM	– REDDISH BROWN SILTY SAND MOIST, DENSE
								SM	– TAN SILTY SAND, MOIST, DENSE
								SM	– GREY SILTY SAND, MOIST, DENSE
						10		SM	– REDDISH BROWN SILTY SAND, MOIST, DENSE

NOTES:
1) TOTAL DEPTH 10 FEET
2) NO CAVING
3) HOLE BACKFILLED
4) SAMPLER DRIVING WEIGHT = 1500 POUND KELLY BAR

G. A. NICOLL & ASSOCIATES

Block 100
Newport Center
The Irvine Company

DRILLHOLE LOG

Project no.	date	sheet	HOLE NO.
1010	Nov. 1972	1 of 1	B-17

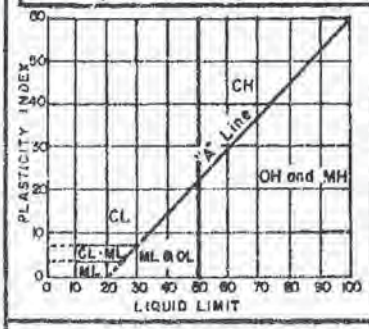
BORING LOGS BY

MOORE & TABER
(1975)

MOORE & TABER CONSULTING ENGINEERS AND GEOLOGISTS

UNIFIED SOIL CLASSIFICATION

Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Silts and clays Liquid limit greater than 50			Silts and clays Liquid limit less than 50			Sands with fines >12% fines		Clean sands <5% fines		Gravels with fines >12% fines		Clean gravels <5% fines	
							Sands - more than 50% of coarse fraction is smaller than Nº 4 sieve.				Gravels - more than 50% of coarse fraction is larger than Nº 4 sieve.			
Fine grained soils (More than 50% is smaller than Nº 200 sieve)							Coarse grained soils (More than 50% is larger than Nº 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW - $C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel	Cobbles	Boulders
Sieve sizes	#200	#40	#10	#4	3/4"	3"	12"

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated

MATERIAL SYMBOLS

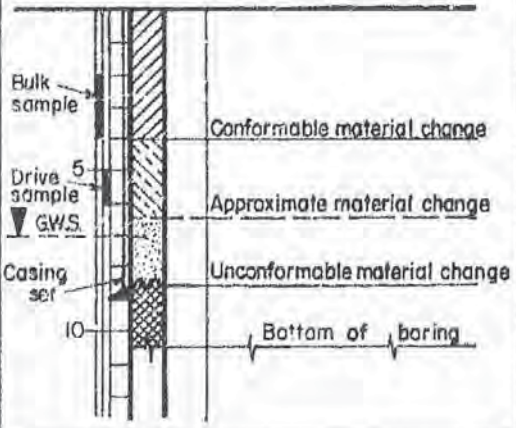
- Gravel
- Sand
- Silt
- Clay
- Sandy clay or clayey sand
- Sandy silt or silty sand
- Silty clay or clayey silt
- Peat or organic matter
- Fill material
- Shale
- Sandstone
- Limestone
- Metamorphic rock
- Igneous rock

CONSISTENCY CLASSIFICATION FOR SOILS

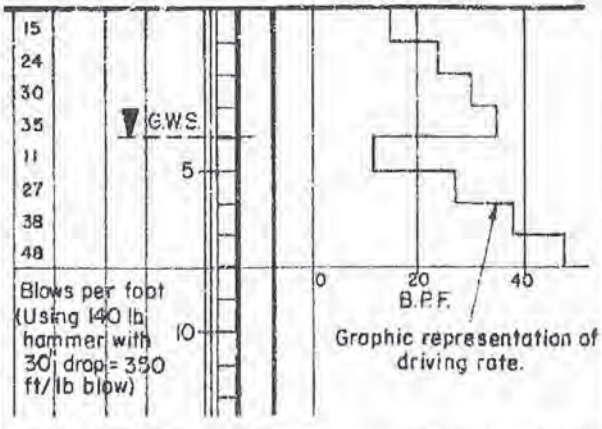
According to the Standard Penetration Test

Nº of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

LEGEND OF BORING



LEGEND OF PENETRATION TEST



LP 1469

Legend

MOORE & TAYLOR CONSULTING ENGINEERS AND GEOLOGISTS

TEST BORING LOG

TYPE 18" Bucket Auger | ELEVATION ~101* | BORING 1

STRIKE / DIP	RELATIVE COMPACTION	DRY DENSITY (LBS/CU.FT.)	MOISTURE (%)	BLOWS/FOOT /SCD AS. /AS.	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN FEET	MATERIAL SYMBOL	UNIFIED SOIL CLASS.	
		114	5.6	10	2.5	1			SC	Red-brown fine to medium CLAYEY SAND - FILL
					Bag	2				
		96	11.1	5	2.5	3	5		SC	Yellow-brown fine CLAYEY SAND - FILL
		111	10.4	10	2.5	4	10		SM	Light brown fine SILTY SAND - FILL
									CL	Greenish SILTY CLAY - FILL
		111	11.9	10	2.5	5	15		SM	Red-brown fine to medium SILTY SAND
									SC	Red-brown fine to medium CLAYEY SAND - FILL
		114	8.8	6	2.5	6	20		SM	Light brown fine SILTY SAND - FILL
									SM	Dark brown SILTY SAND
		118	7.4	25	2.5	7	25		SM	Red-brown fine SILTY SAND

NOTES

1. No caving
2. No water seepage encountered

* Elevations based on assumed elevation of 100 at top of curb, Newport Center Drive East.

LOGGED BY WMC | DATE 1/14/75

Job No. 175-507 - January 31, 1975

MOORE & TABER CONSULTING ENGINEERS AND GEOLOGISTS

TEST BORING LOG

TYPE 18" Bucket Auger | ELEVATION ~100.5 | BORING 2

STRIKE / DIP	RELATIVE COMPACTION	DRY DENSITY (LBS/CU FT)	MOISTURE (%)	BLOWS/FOOT (300 FT/LBS)	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN FEET	MATERIAL SYMBOL	UNIFIED SOIL CLASS.	
									SC	Red-brown fine CLAYEY SAND - FILL
		91	26.9	11	2.5	1	5		SM	Red-brown fine SILTY SAND - FILL
		106	11.7	5	2.5	2			CL	Greenish SILTY CLAY
									SM	Red-brown fine SILTY SAND
							10		CL	Red-brown & Greenish SILTY CLAY - FILL
		108	8.3	8	2.5	3			SM	Red-brown fine SILTY SAND - FILL
		109	13.5	8	2.5	4	15		SM	Red-brown fine SILTY SAND - FILL
									SM	Gray-brown fine to medium SILTY SAND & red-brown CLAYEY SAND - FILL
		109	5.9	6	2.5	5	20		SM	Brown fine SILTY SAND ... changing to red-brown
		109	5.4	5	2.5	6	25			
		114	7.2	15	2.5	7	30		SC	Mottled red-brown and gray CLAYEY SAND

NOTES

1. No caving
2. No water seepage encountered

LOGGED BY WMC | DATE 1/14/75

MOORE & TABER CONSULTING ENGINEERS AND GEOLOGISTS

TEST BORING LOG

TYPE 18" Bucket Auger | ELEVATION ~100.0 | BORING 1

STRIKE / DIP	RELATIVE COMPACTION	DRY DENSITY (LBS/CU.FT.)	MOISTURE (%)	BLOWS/FOOT	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	MATERIAL SYMBOL	UNIFIED SOIL CLASS.	
		88	23.8	6	2.5	1			SC	Red-brown fine CLAYEY SAND - FILL
					Bag	2			SC	Yellow-brown fine CLAYEY SAND with SHALE - FILL
		84	38.1	4	2.5	3	5		SM	Red-brown fine SILTY SAND
									SC	Gray-brown mottled CLAYEY SAND
									ML	Gray-brown SANDY SILT
		116	12.5	4	2.5	4	10		SM	Red-brown fine SILTY SAND ... some fine CLAYEY SAND layers - FILL
									SC	Red-brown fine to medium CLAYEY SAND
		123	7.5	5	2.5	5	15		SM	Mottled gray and brown fine to coarse SILTY SANDS - FILL
		113	5.3	10	2.5	6	20		SM	Brown fine SILTY SAND ... changing to red-brown
									SP	Light brown fine SAND
		101	3.1	18	2.5	7	25			

NOTES

1. No caving
2. No water seepage encountered

LOGGED BY WMC | DATE 1/14/75

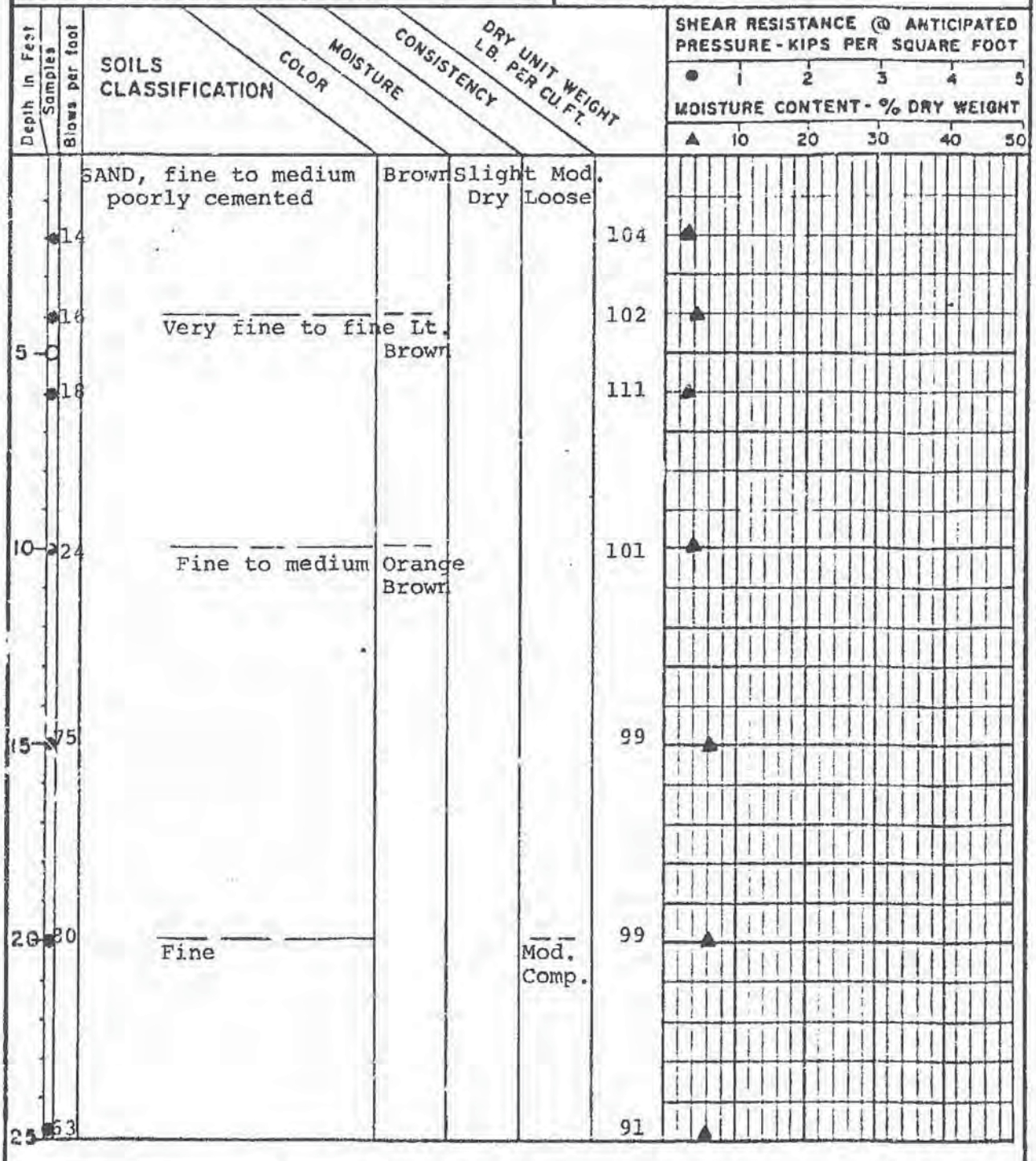
BORING LOGS BY

SOILS INTERNATIONAL
(1988)

LOG OF BORING Nº 1

DATE DRILLED 3-25-88 | DRILLING EQUIPMENT 8" Hollowstem

DRIVING WEIGHT 140 pounds - 30" drop | SURFACE ELEVATION



Edwards Theatre
300 Newport Center Drive
Newport Beach, Calif.

PROJECT No.	S-1093-F
PLATE	B

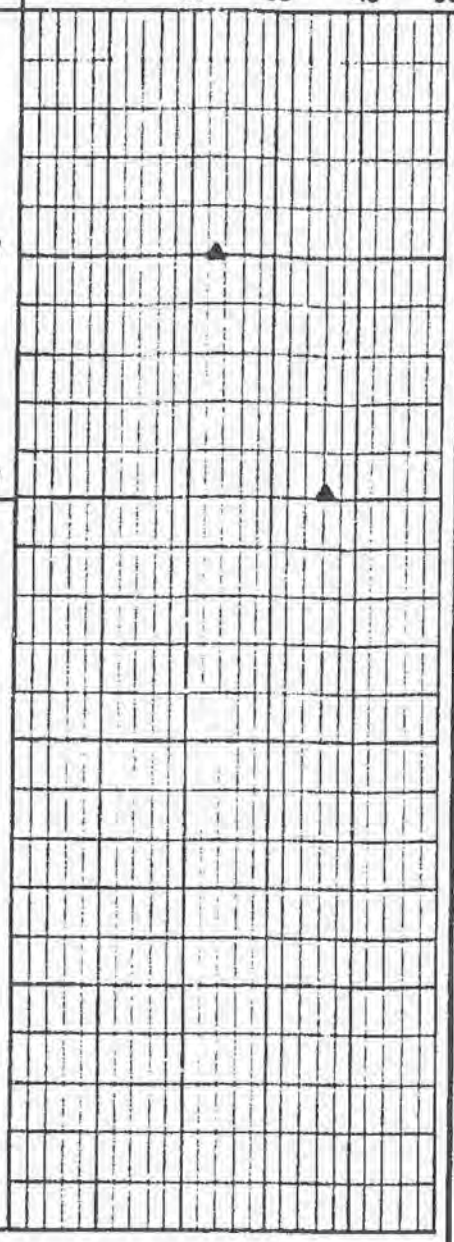
SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 1 continued . . .

DATE DRILLED 3-25-88	DRILLING EQUIPMENT 8" Hollowstem
DRIVING WEIGHT 140 pounds - 30" drop	SURFACE ELEVATION

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT L.B. PER CU. FT.
			Sand, fine to medium		Sl. Moist	Mod. Comp.	
			Siltstone		Moist	Comp.	87
30	●	29	Sandstone with siltstone fragments				
35	●	20					67
			End of Boring @ 35 feet No caving No groundwater				
40			● Core Sample ○ Bulk Sample				
45							
50							

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5
MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50



Edwards Theatre
300 Newport Center Drive
Newport Beach, CAlif.

PROJECT No.	S-1093-F
PLATE	C

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 2

DATE DRILLED 3-25-88 | DRILLING EQUIPMENT 8" Hollowstem

DRIVING WEIGHT 140 pounds - 30" drop | SURFACE ELEVATION

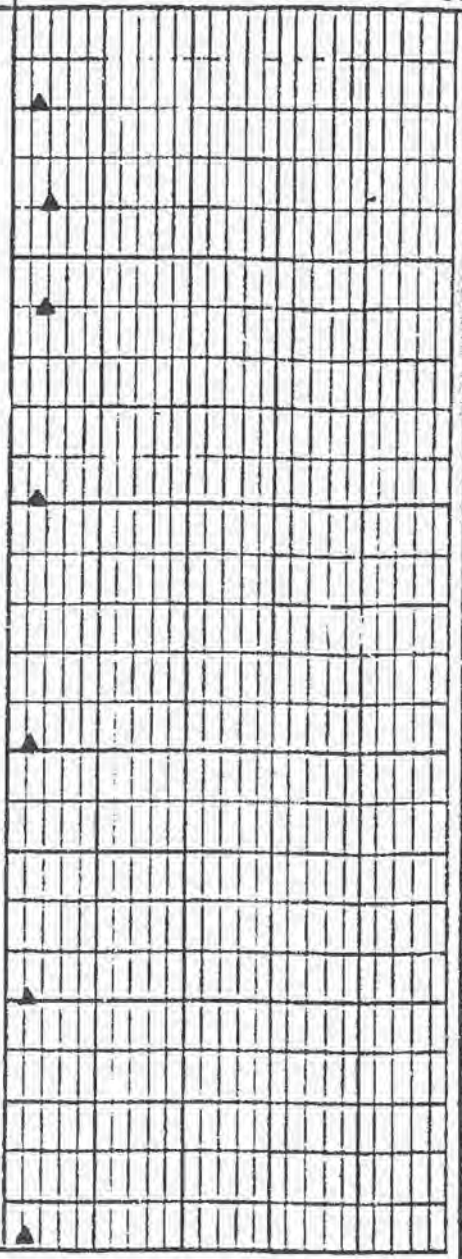
Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT L.B. PER CU. FT.
			FILL Sand, fine clean	Lt Brown to Brown	Sl Dry	Mod Loose	108
		67	Fine to medium clean				
		73					120
5							
		23					106
	C						
10		79					107
			Fine, clean	Orange Brown		Mod. Comp.	
15		33					99
20		71					99
		31					90
25							

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT

● 1 2 3 4 5

MOISTURE CONTENT - % DRY WEIGHT

▲ 10 20 30 40 50



Edwards Theatre
300 Newport Center Drive
Newport Beach, Calif.

PROJECT No. S-1093-F

PLATE D

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

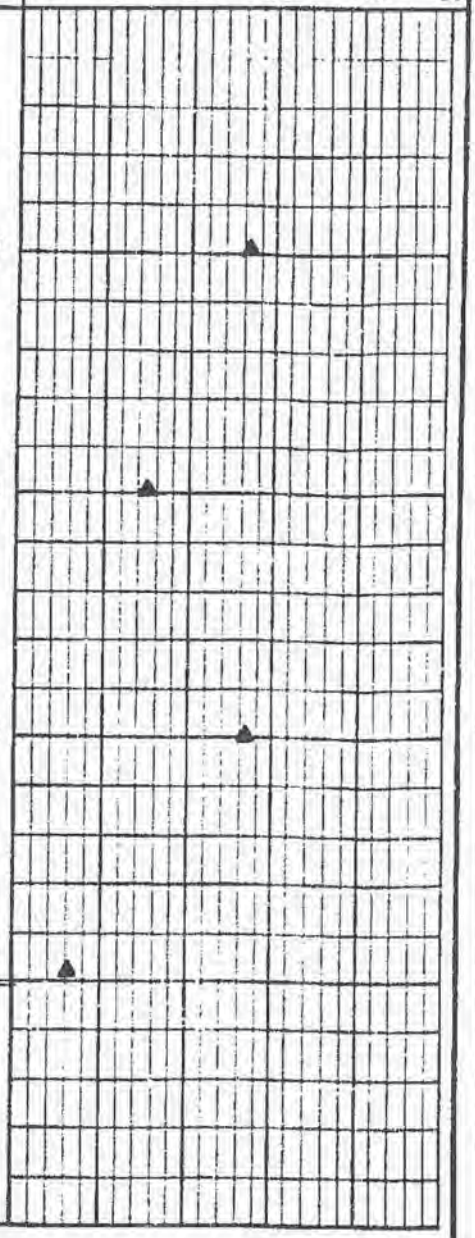
LOG OF BORING Nº 2 continued. . .

DATE DRILLED 3-25-88	DRILLING EQUIPMENT 8" Hollowstem
DRIVING WEIGHT 140 pounds - 30" Drop	SURFACE ELEVATION

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT L.B. PER CU.FT.
			SAND, fine to medium	Orange Brown	Sl. Moist	Mod. Comp.	
30	●	36	Siltstone/sandstone	Tan	Moist	Comp.	77
35	●	52					93
40	●	79	Sandstone lense of siltstone	Grey Tan			82
45	●	95					95
			End of Boring @ 45' No caving No groundwater				
50							

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5

MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50



Edwards Theatre
300 Newport Center Drive
Newport Beach, Calif.

PROJECT No.	S-1093-F
PLATE	E

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

BORING LOGS BY

R.T. FRANKIAN & ASSOCIATES
(1994)

LOG OF BORINGS 94-029-A BORING NUMBER 1

CLIENT _____ JOB NO. _____

ELEVATION 69½±

Sample Depth	Blows Per Foot	Moisture Content (%)	Dry Unit Weight Lbs. Per Cu. Ft.	Depth In Feet	DESCRIPTION
					Surface Conditions: Asphalt 6" thick - no base
				0	
1½	5	11	120		SM SAND: Tan-brown, silty, fine to medium moist, dense to very dense mottled tan-brown and medium brown
3	8	11	113		Ss SANDSTONE? Mottled rust-brown-gray, fine sandstone, moist, hard
				5	
6	10	9	109		
					mottled rust-brown-olive-gray with olive-gray shale bedrock, root fragment
10	6	23	92	10	
					mottled rust-brown-white, and olive-gray, fine sandstone with olive-gray siltstone bedding, moist, firm to medium hard
14	7	28	87		
				15	grades olive-buff colored fine sandstone, less moist
					lenses of very hard hsale
				20	End of boring at 20 feet No water - no caving

R.T. FRANKIAN & ASSOCIATES
Theoretical and Applied Earth Mechanics

LOG OF BORINGS 94-029-A BORING NUMBER 2

CLIENT _____ JOB NO. _____

ELEVATION: 72½±

Sample Depth	Blows Per Foot	Moisture Content (%)	Dry Unit Weight Lbs. Per Cu. Ft.	Depth In Feet	DESCRIPTION
					Surface Conditions: Asphalt 7" thick - no base
				0	SAND: Tan-brown silty fine sand, damp to moist, dense to very dense
2	9/10"	9	118		
4	10	5	110		SANDSTONE: Mottled tan-brown to dark-brown, fine, damp to moist, hard to very hard
				Ss 5	
7	12	6	112		grades tan to medium brown sandstone, damp to moist, very hard
					grades olive-gray, moist
10½	6	26	92	10	olive to light green fine sandstone
					SILTSTONE: Mottled rust-brown and gray siltstone, moist, very firm
				S_i	
				15	
16	12/7"	3	107		SANDSTONE: Buff-gray fine sandstone, damp, very hard
				Ss	
					occasional layers of hard shale bedding
20	10/8"	26	87	20	
					End of boring at 20 feet No water - no caving

R.T. FRANKIAN & ASSOCIATES

LOG OF BORINGS 94-029-A BORING NUMBER 3

CLIENT _____ JOB NO. _____

ELEVATION: 76±

Sample Depth	Blows Per Foot	Moisture Content (%)	Dry Unit Weight Lbs. Per Cu. Ft.	Depth In Feet	DESCRIPTION
					Surface Conditions: Concrete 5" thick (+/-) reinforced
				0	
				Af	FILL: Gray silty clay, moist to very moist
2	Push &Tap	15	112		grades red-brown almoost clean sand, very moist, loose
					grades dark olive-brown to black slightly silty sand with lenses of olive colored silty clay, very moist, loose
				5	
8	6	11	114	SM	SAND: Mottled light brown, medium brown, and rust brown, silty, fine, moist, dense to very dense
				10	
11	10	10	114	S_s	SANDSTONE: Mottled rust-brown and gray, fine sandstone, moist, very hard
					occasional lense of silty clay
15	12	7	107	15	mottled rust-brown, olive, tan colored fine sandstone, moist
					occasional lense of hard shale
20	15	26	93	20	

R.T. FRANKIAN & ASSOCIATES

APPENDIX C

LABORATORY TEST RESULTS BY

W.A. WAHLER
(1970)

FOR EXISTING CARWASH SITE

TABLE A-1

FIELD RESISTIVITY TEST RESULTS

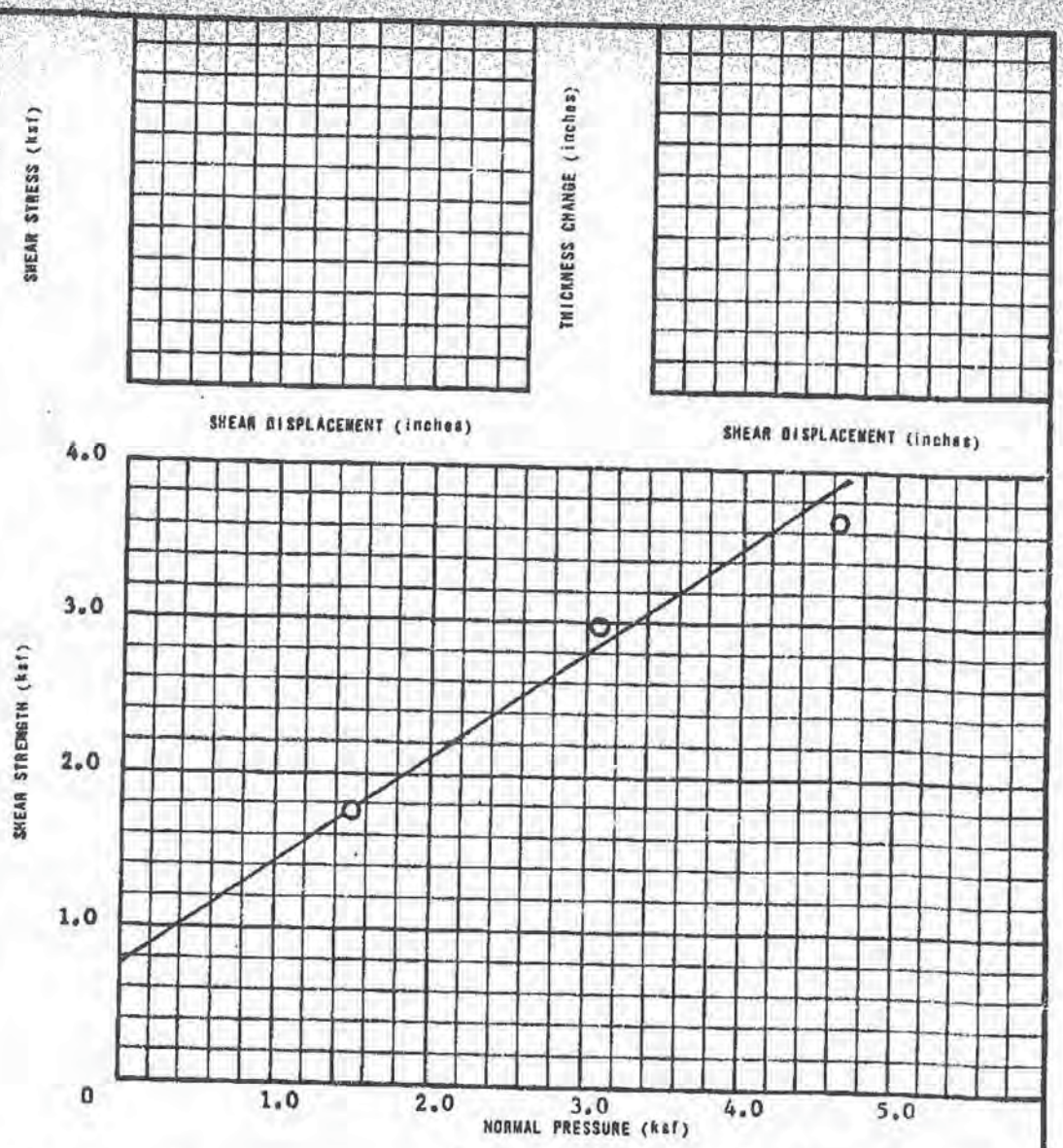
Alignment No.	Test Depth	Soil Classification	Resistivity (ohm-cm)	Corrosivity	Service Life
1	2.5'	Clayey SAND	1435	Severe	10-15
	4.5'	Clayey SAND	1700	Moderate	15-20
	9.0'	SAND	2552	Moderate	15-20
2	2.5'	Clayey SAND	1558	Moderate	15-20
	4.5'	Clayey SAND	1530	Moderate	15-20
	9.0'	SAND	2200	Moderate	15-20
3	10.0'	SAND	1495	Moderate to Severe	12-20
	11.5'	Sandy CLAY	1632	Moderate	15-20

NOTE: pH's were determined for samples from depths of 1', 4.5', 11', 13', and 14'. The pH of each sample was 6.8.

TABLE B-1

DETERMINATION OF NATURAL WATER CONTENT, DRY DENSITY, AND pH

Pit No.	Depth (Ft.)	Sample Description	Unified Soil Classification	Natural Water Content (%)	Natural Dry Density (pcf)	pH
1	0.25	SAND	SP	6.9	112.1	-
	4.5	Clayey SAND	SW-SC	9.1	119.2	6.8
	6	Silty SAND	SP-SM	7.1	108.8	-
	8	Silty SAND	SM	9.7	-	-
	9	Sandy CLAY	CL	13.2	134.3	-
3	1.5	Clayey SAND	SC	16.0	109.8	-
	3.5	Clayey SAND	SP-SC	9.0	119.3	-
4	4.5	Sandy CLAY	CL	30.4	86.3	-
5	1-4	Sandy CLAY	SC	-	-	6.8
	11	Silty SAND	SM	7.2	127.8	6.8
	13	Sandy CLAY	CH	-	-	6.8
	14	SAND	SP	7.1	116.8	6.8



HOLE NO. 1
DEPTH (ft) 4.5
SAMPLE DESCRIPTION Light Brown Clayey SAND
TEST DESIGNATION Q Sat
RATE OF STRAIN .025 in/min.

SPECIMEN NUMBER	1	2	3	
NORMAL PRESSURE (ksf)	1.56	3.09	4.63	
SHEAR STRENGTH (ksf)	1.75	2.99	3.65	
INITIAL WATER CONTENT (%)	9.1	9.1	9.1	
FINAL WATER CONTENT (%)	15.6	14.3	13.4	
DRY DENSITY (pcf)	119.2	119.2	119.2	

NOTE: $\phi = 35^\circ$ C = 0.75 ksf

SOIL MECHANICS and FOUNDATION ENGINEERS Inc.
PALO ALTO • NEWPORT BEACH • CALIF.

NEWPORT CENTER CAR WASH
NEWPORT BEACH, CALIFORNIA

DIRECT SHEAR TEST

PROJECT NO.	DATE	DRAWING NO.
0461	JAN. 1970	FIGURE B-1

811-2 Rev. 2/69

LABORATORY TEST RESULTS BY

NMG
(2012a & b)

FOR PADS B & C AT FASHION ISLAND

Sample	Compacted Moisture (%)	Compacted Dry Density (pcf)	Final Moisture (%)	Volumetric Swell (%)	Expansion Index[1] Value/Method		Expansive Classification[2]	Soluble Sulfate (%)	Sulfate Exposure[3]
HS-3 B-1 0-5'	8.6	114.8	13.1	2.8	28	B	Low	.05	Negligible
HS-12 B-1 0-5'	7.5	113.4	12.3	0	0	B	Very Low	0.05	Negligible
HS-13 B-1 0-5'	10.6	112.1	15.7	0.2	5	B	Very Low	0.05	Negligible

Test Method:

ASTM D4829 / UBC Standard 18-2

HACH SF-1 (Turbidimetric)

Notes:

1. Expansion Index (EI) method of determination:
   [A] E.I. determined by adjusting water content to achieve a 50 ±1% degree of saturation
   [B] E.I. calculated based on measured saturation within the range of 40% and 60%
2. 1997 UBC Table 18-1-B *(Classification of Expansive Soil)*
3. 1997 UBC Table 19-A-4 *(Requirement for Concrete Exposed to Sulfate-Containing Solutions)*

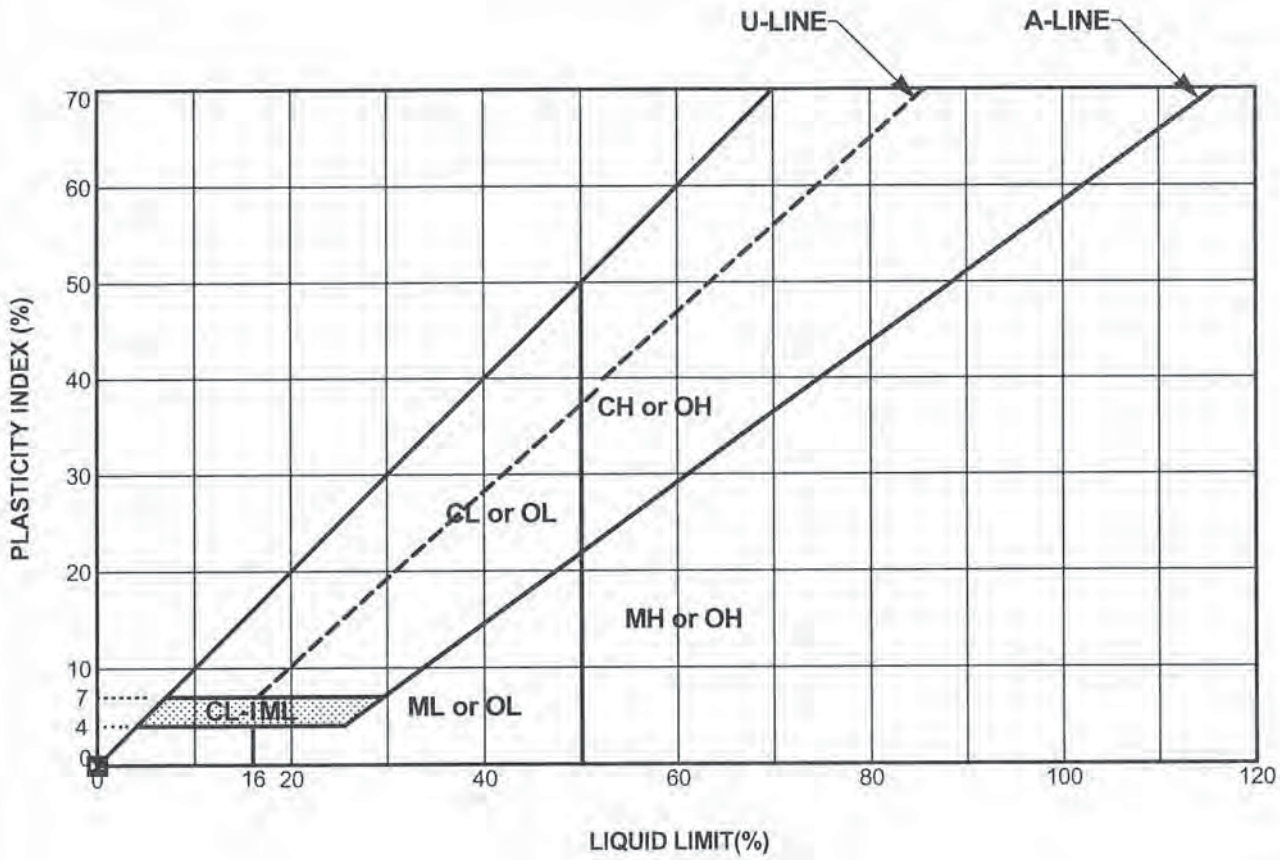
Expansion Index and Soluble Sulfate Test Results

(FRM001 Rev.5)

Project No. 08034-01 and -03

Project Name: FI Eastside

NMG



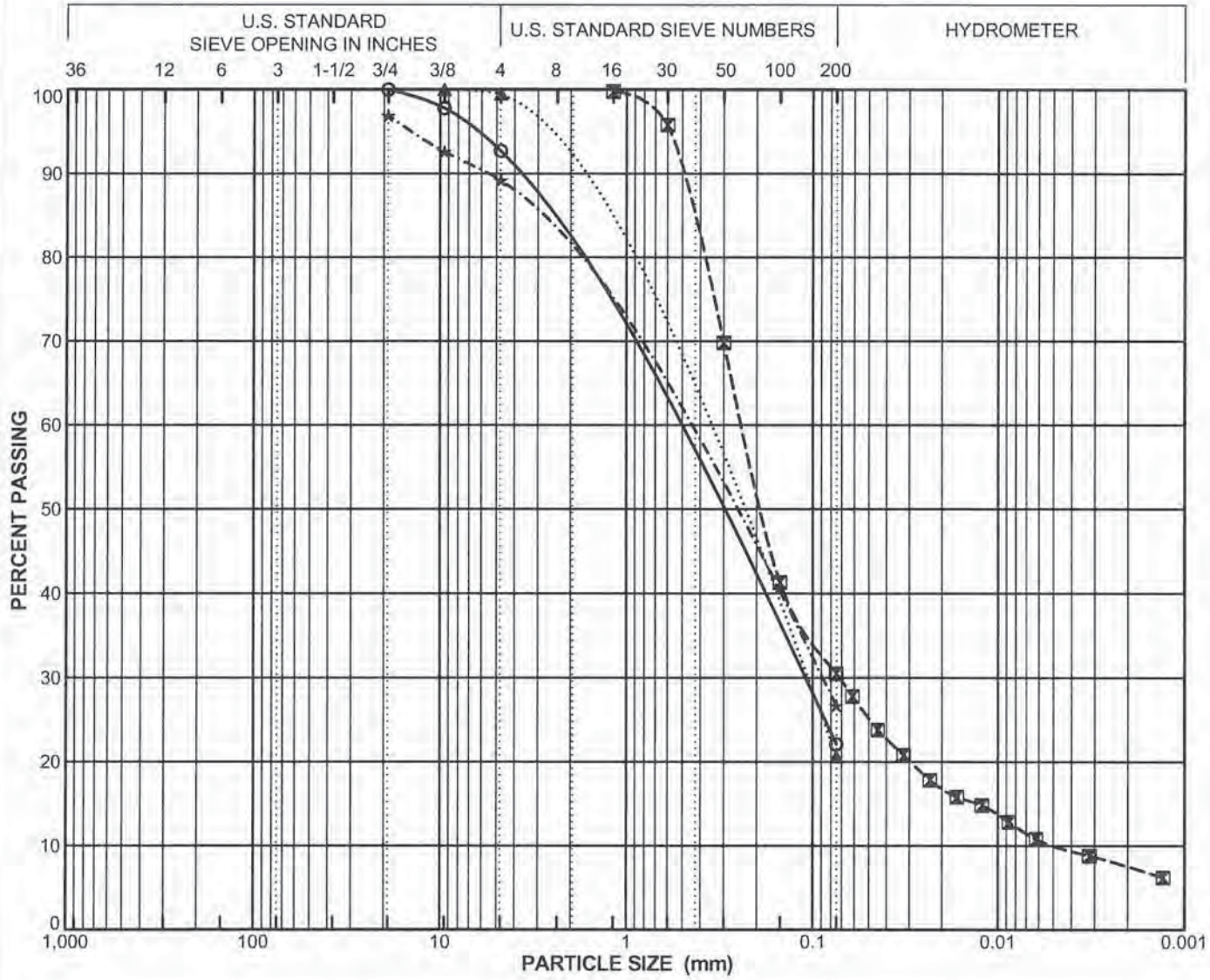
Symbol	Boring Number	Depth (feet)	Sample Number	Passing No. 200 Sieve (%)	LL	PI	USCS	Description
O	HS- 3	2.0	B-1	31	NP	NP	SM	(Af) Dark Brown Silty SAND
⊠	HS-13	2.0	B-1	27	NP	NP	SM	(Af) Brown Silty SAND

PLASTICITY CHART

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.

BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY
		coarse	fine	coarse	medium	fine	

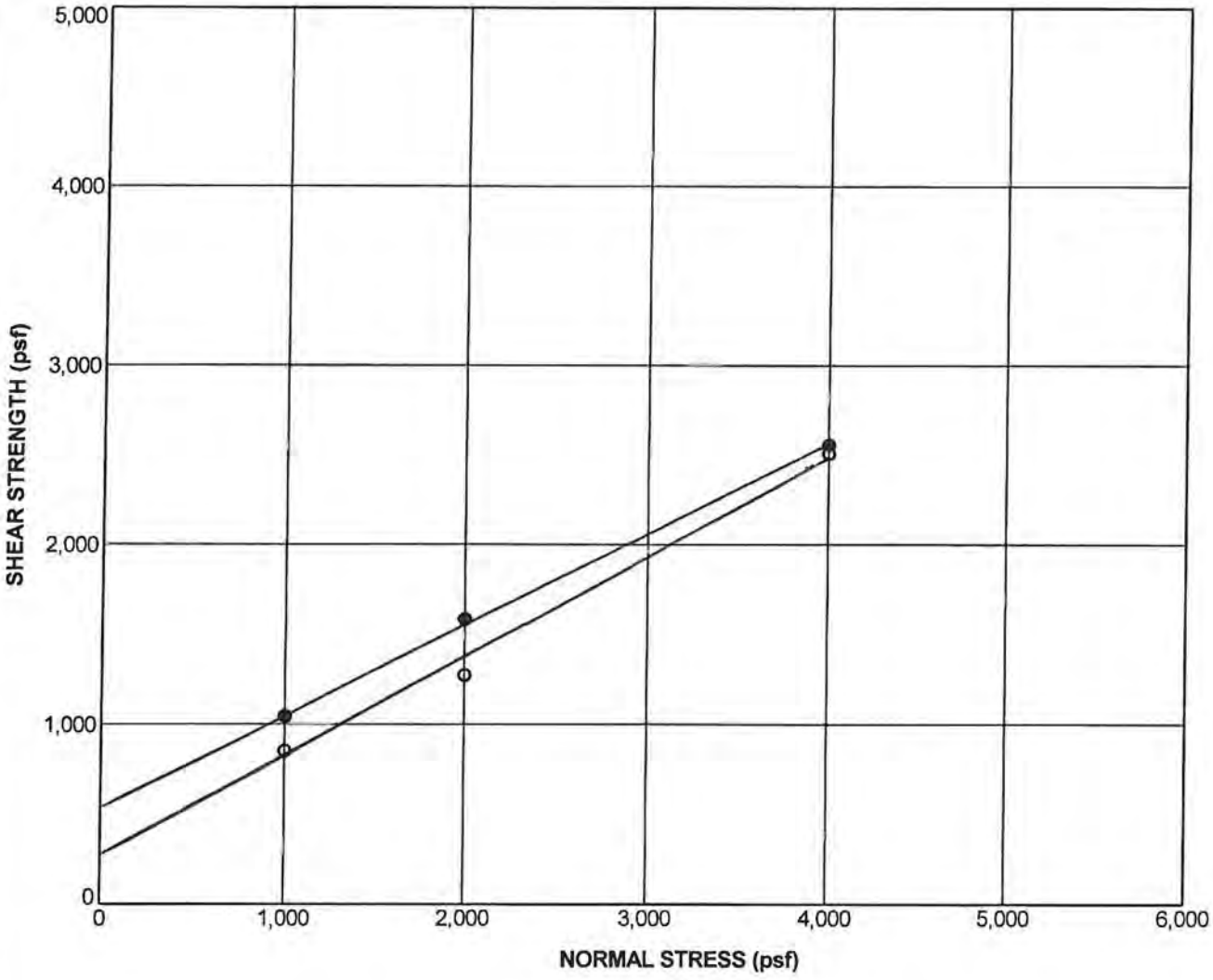


Symbol	Boring Number	Sample Number	Depth (feet)	Field Moisture (%)	LL	PI	Activity PI/-2μ	C_u	C_c	Passing No. 200 Sieve (%)	Passing 2μ (%)	USCS
O	HS- 1	B-1	2.0							22		SP
⊠	HS- 3	B-1	2.0	9	NP	NP				31	7	SM
▲	HS-12	B-1	2.0							21		SM
★	HS-13	B-1	2.0		NP	NP				27		SM

PARTICLE SIZE DISTRIBUTION

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.



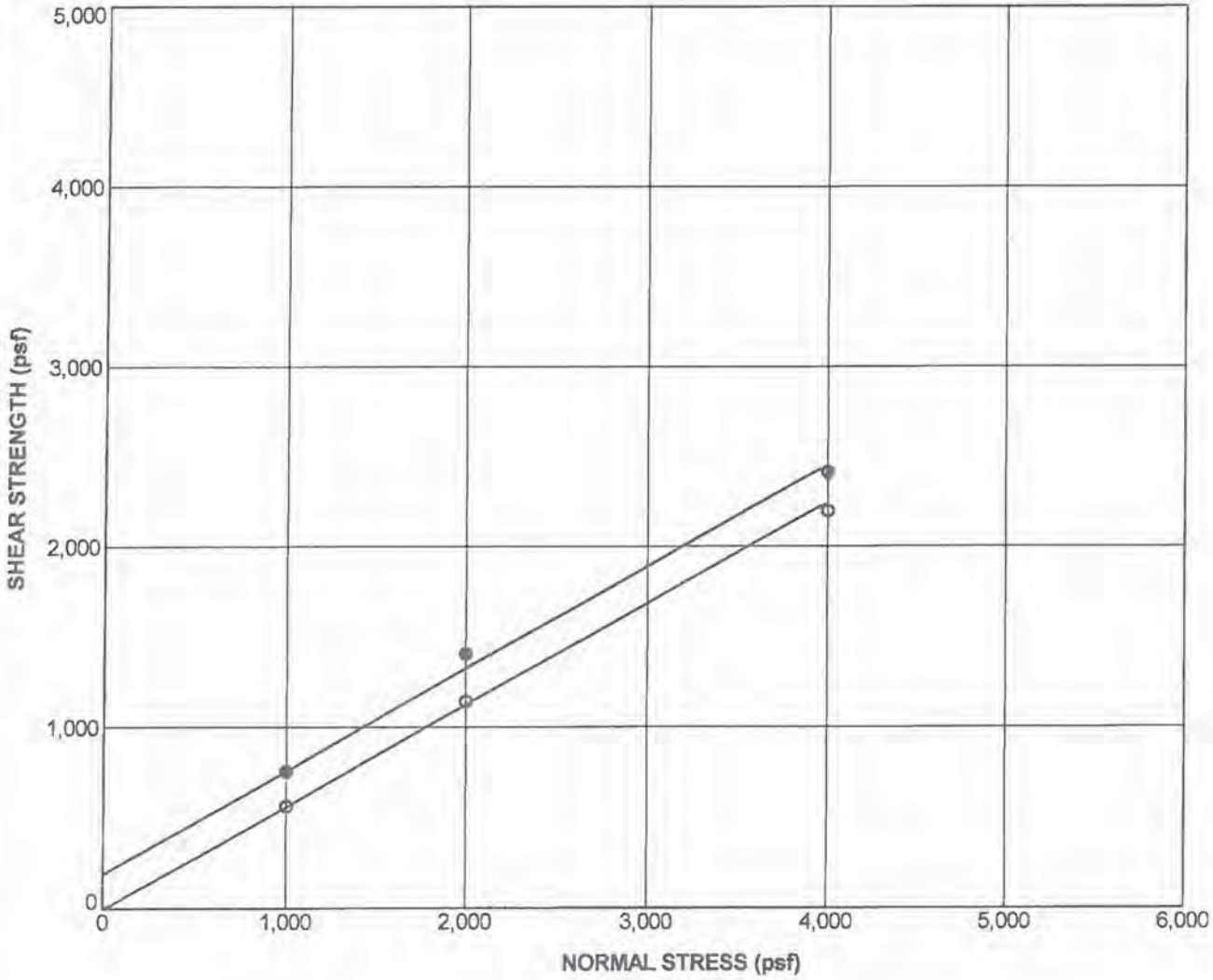
Boring No. HS-3		Sample No. B-1		Depth: 2.0 ft	
Sample Description:	(Af) Dark Brown Silty SAND				
Liquid Limit:	NP	Plasticity Index:	NP	Percent Passing No. 200 Sieve:	31
Moisture Content (%):	16.4	Dry Density (pcf):	112.7	Degree of Saturation (%):	93
Sample Type:	Remolded to 90% RC	Rate of Shear (in./min.):	0.05		

SHEAR STRENGTH PARAMETERS		
Parameter	Peak ●	Ultimate O
Cohesion (psf)	500	250
Friction Angle (degrees)	27	29.0

DIRECT SHEAR TEST RESULTS

Fashion Island/ Eastside
Fashion Island Retail Center
PROJECT NO. 08034-01

NMG Geotechnical, Inc.



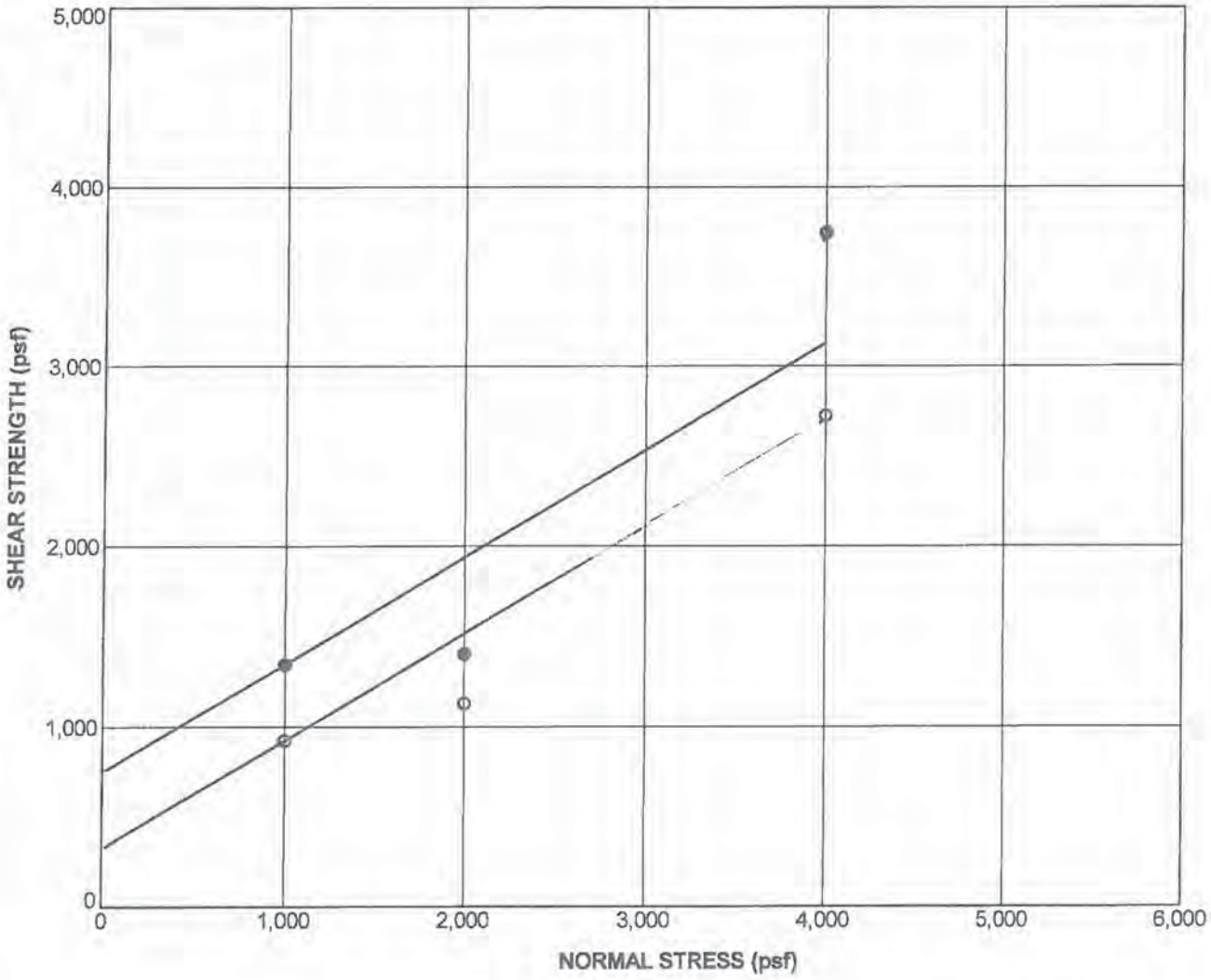
Boring No. HS-12	Sample No. D-2	Depth: 5.0 ft
Sample Description: (Af) Brown Clayey SAND		
Liquid Limit:	Plasticity Index:	Percent Passing No. 200 Sieve:
Moisture Content (%): 20.6	Dry Density (pcf): 105.0	Degree of Saturation (%): 95
Sample Type: Undisturbed	Rate of Shear (in./min.): 0.05	

SHEAR STRENGTH PARAMETERS		
Parameter	Peak ●	Ultimate ○
Cohesion (psf)	200	0
Friction Angle (degrees)	30	30.0

DIRECT SHEAR TEST RESULTS

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.



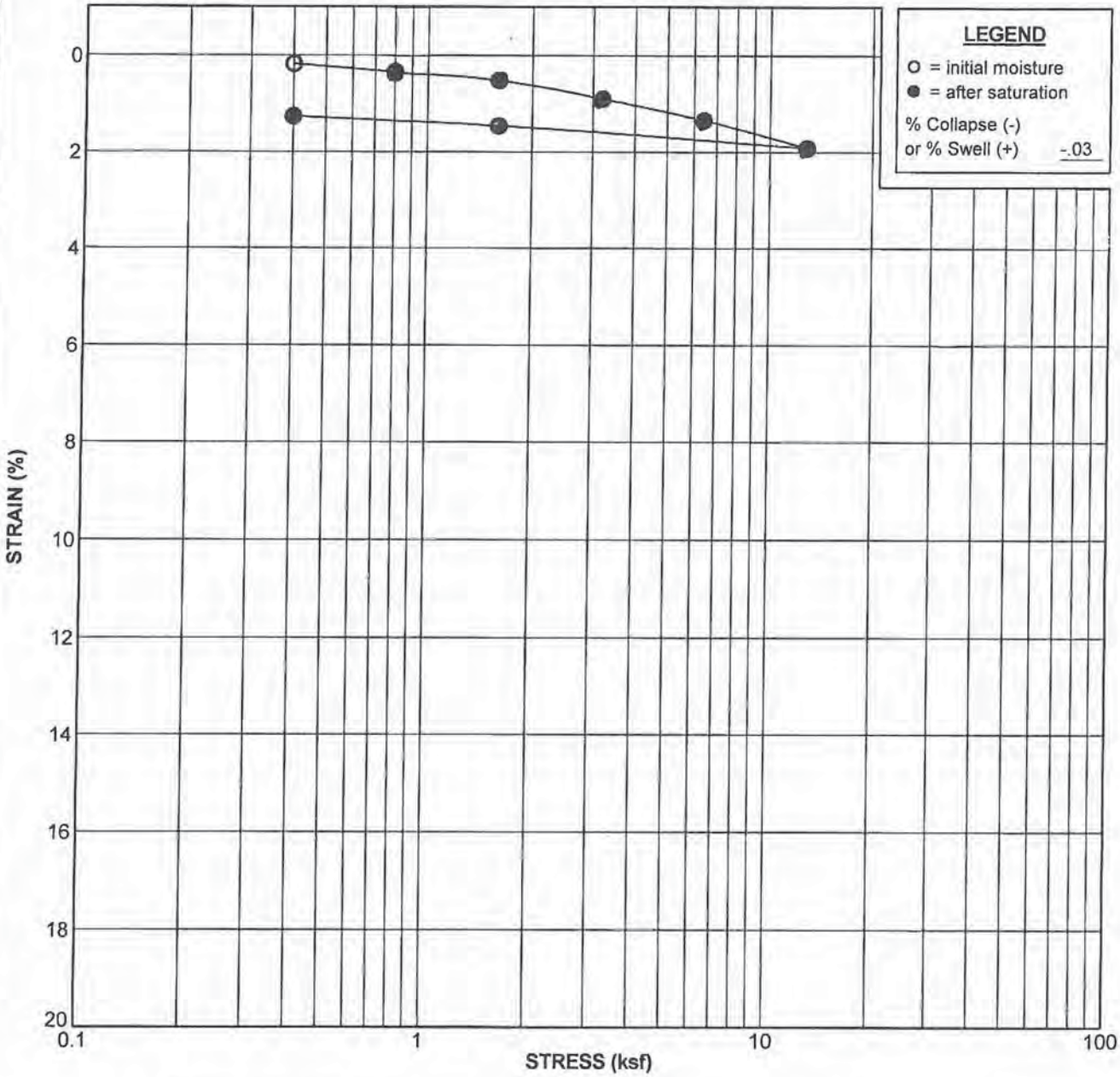
Boring No. HS-13	Sample No. D-1	Depth: 2.5 ft
Sample Description:	(Af) Brown Silty SAND	
Liquid Limit:	Plasticity Index:	Percent Passing No. 200 Sieve:
Moisture Content (%): 15.5	Dry Density (pcf): 114.5	Degree of Saturation (%): 92
Sample Type: Undisturbed	Rate of Shear (in./min.): 0.05	

SHEAR STRENGTH PARAMETERS		
Parameter	Peak ●	Ultimate ○
Cohesion (psf)	750	350
Friction Angle (degrees)	31	31.0

DIRECT SHEAR TEST RESULTS

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.



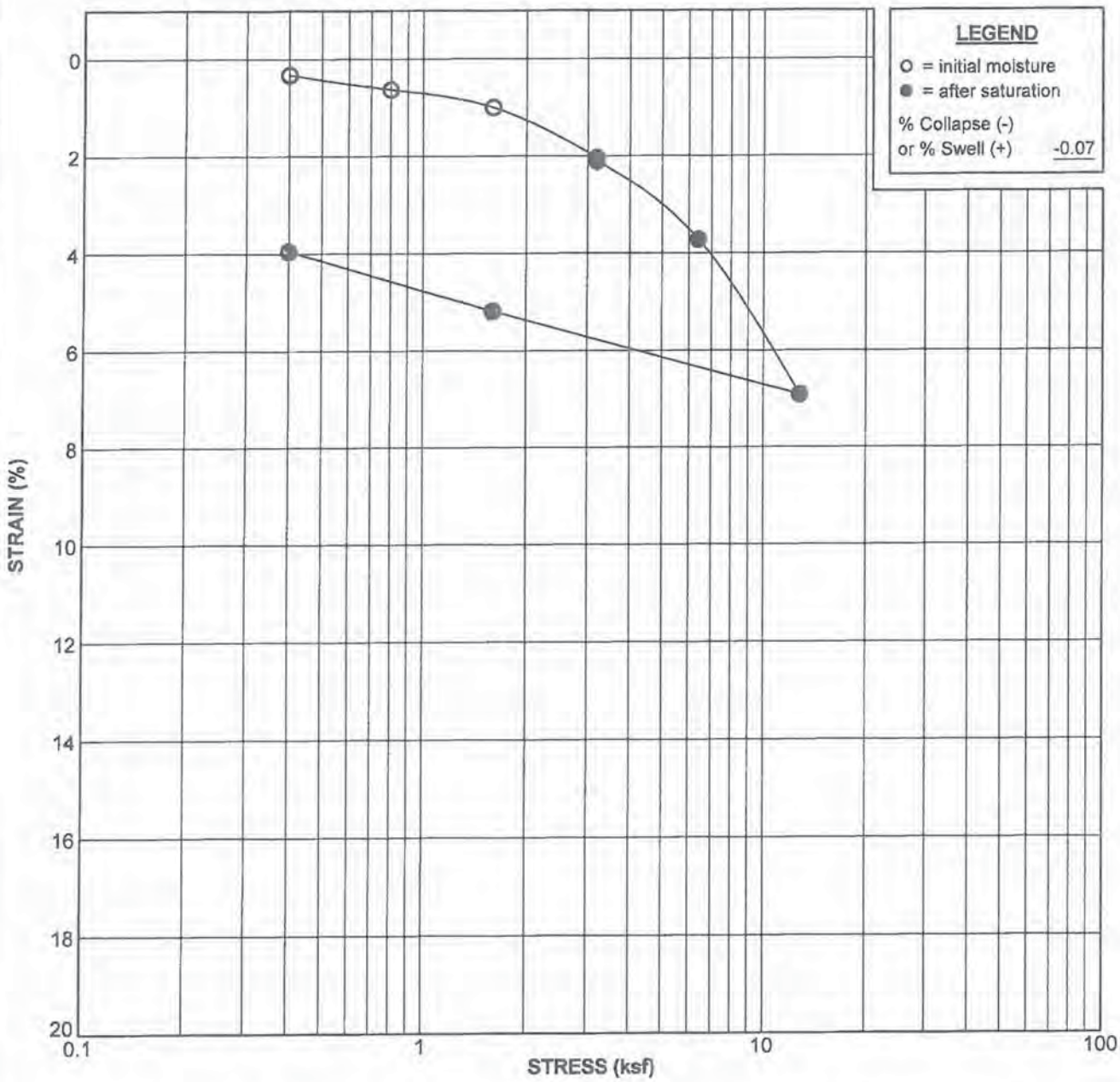
Boring No. HS-3	Sample No. B-1	Depth: 2.0 ft
Sample Description:	(Af) Dark Brown Silty SAND (Remolded to 90%RC)	
Liquid Limit: NP	Plasticity Index: NP	Percent Passing No. 200 Sieve: 31

Test Stage	Moisture Content (%)	Dry Density (pcf)	Degree of Saturation (%)	Void Ratio
Initial	8.6	113.0	49.2	0.463
Final	15.4	114.4	91.6	0.445

CONSOLIDATION TEST RESULTS

Fashion Island/ Eastside
Fashion Island Retail Center
PROJECT NO. 08034-01

NMG Geotechnical, Inc.



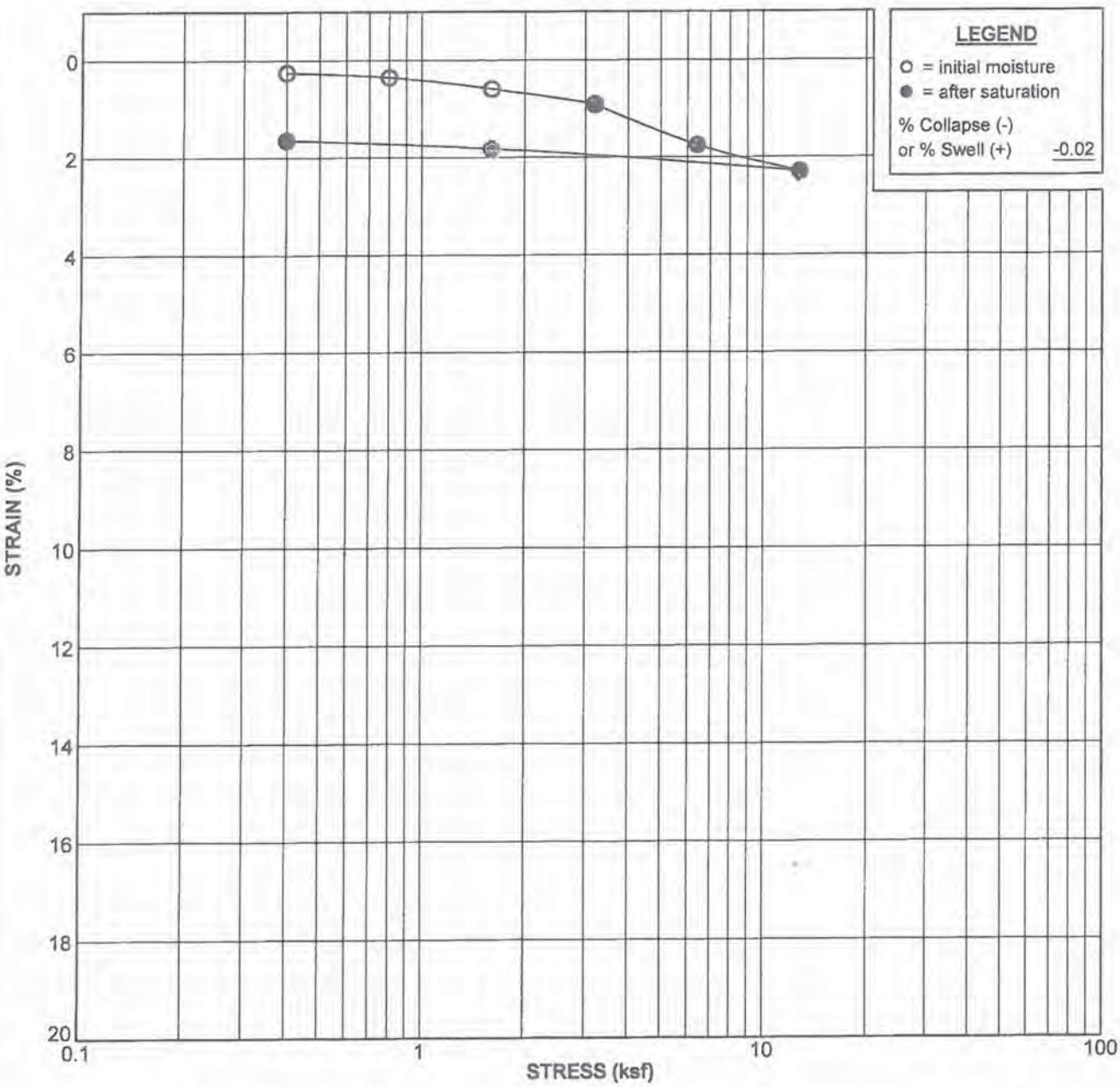
Boring No. HS-12	Sample No. D-3	Depth: 7.5 ft
Sample Description:	(Qal) Pale Gray to Reddish Brown Silty Sandy CLAY	
Liquid Limit:	Plasticity Index:	Percent Passing No. 200 Sieve:

Test Stage	Moisture Content (%)	Dry Density (pcf)	Degree of Saturation (%)	Void Ratio
Initial	22.0	102.3	94.6	0.616
Final	22.2	106.4	106.2	0.554

CONSOLIDATION TEST RESULTS

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.



Boring No. HS-13	Sample No. D-3	Depth: 7.5 ft
Sample Description:	(Af) Reddish Brown Silty SAND	
Liquid Limit:	Plasticity Index:	Percent Passing No. 200 Sieve:

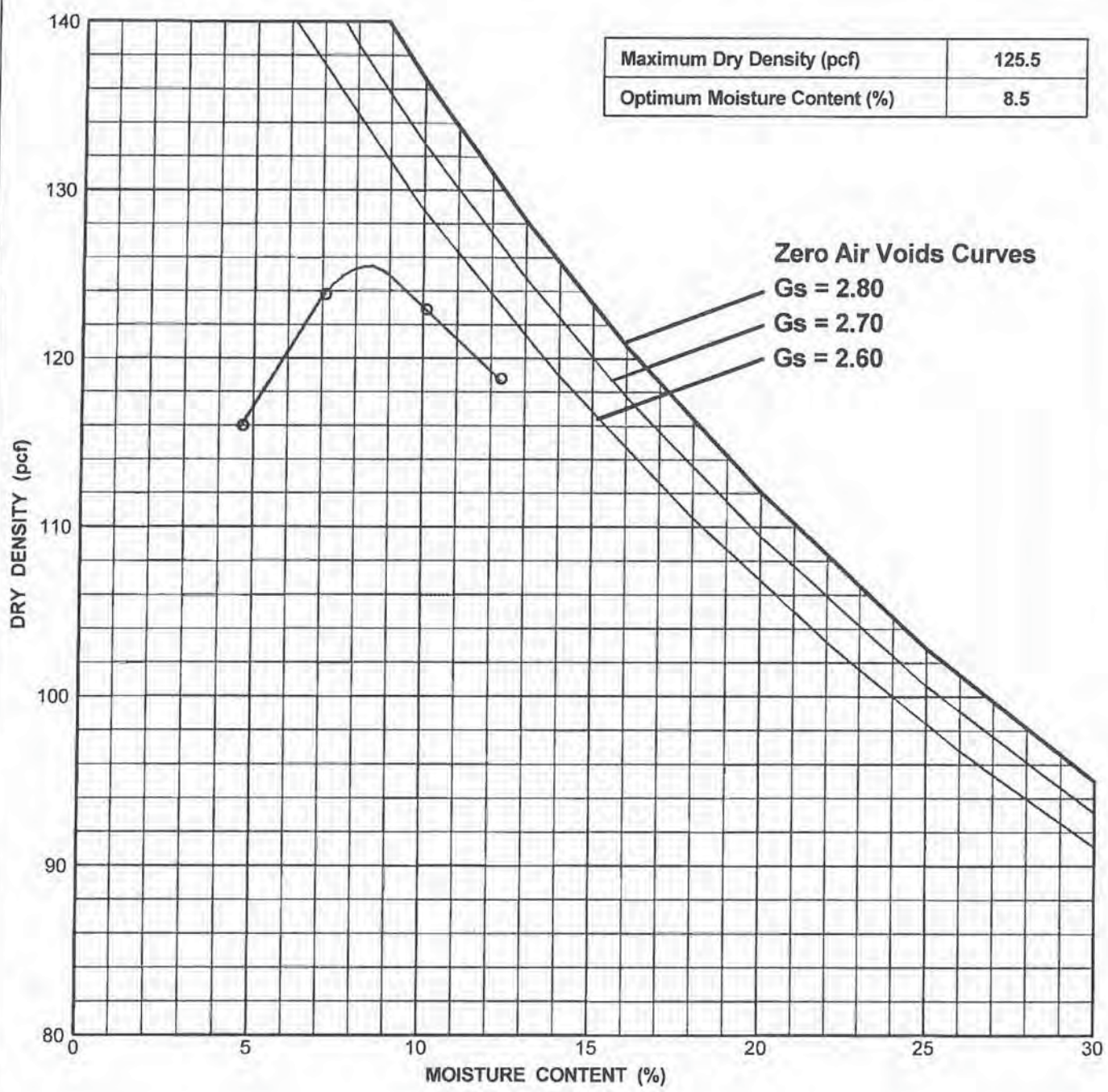
Test Stage	Moisture Content (%)	Dry Density (pcf)	Degree of Saturation (%)	Void Ratio
Initial	9.9	113.2	56.9	0.461
Final	13.1	115.1	79.5	0.437

CONSOLIDATION TEST RESULTS

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.

Maximum Dry Density (pcf)	125.5
Optimum Moisture Content (%)	8.5



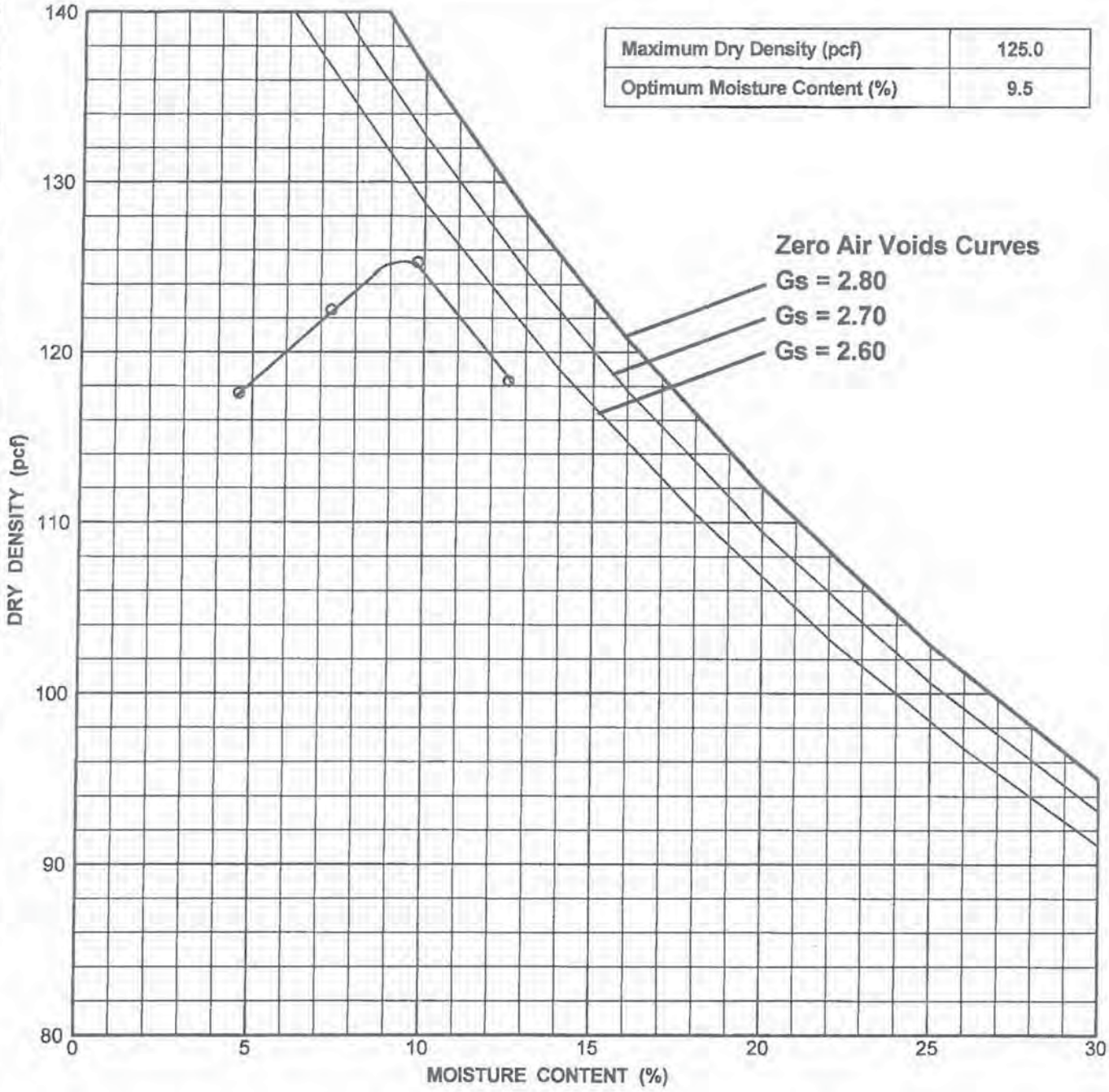
Boring No. HS-3	Sample No. B-1	Depth: 2.0 ft
Sample Description: (Af) Dark Brown Silty SAND		
Liquid Limit: NP	Plasticity Index: NP	Percent Passing No. 200 Sieve: 31
Comments: 1557A		

COMPACTION TEST RESULTS

Fashion Island/ Eastside
Fashion Island Retail Center
PROJECT NO. 08034-01

NMG Geotechnical, Inc.

Maximum Dry Density (pcf)	125.0
Optimum Moisture Content (%)	9.5



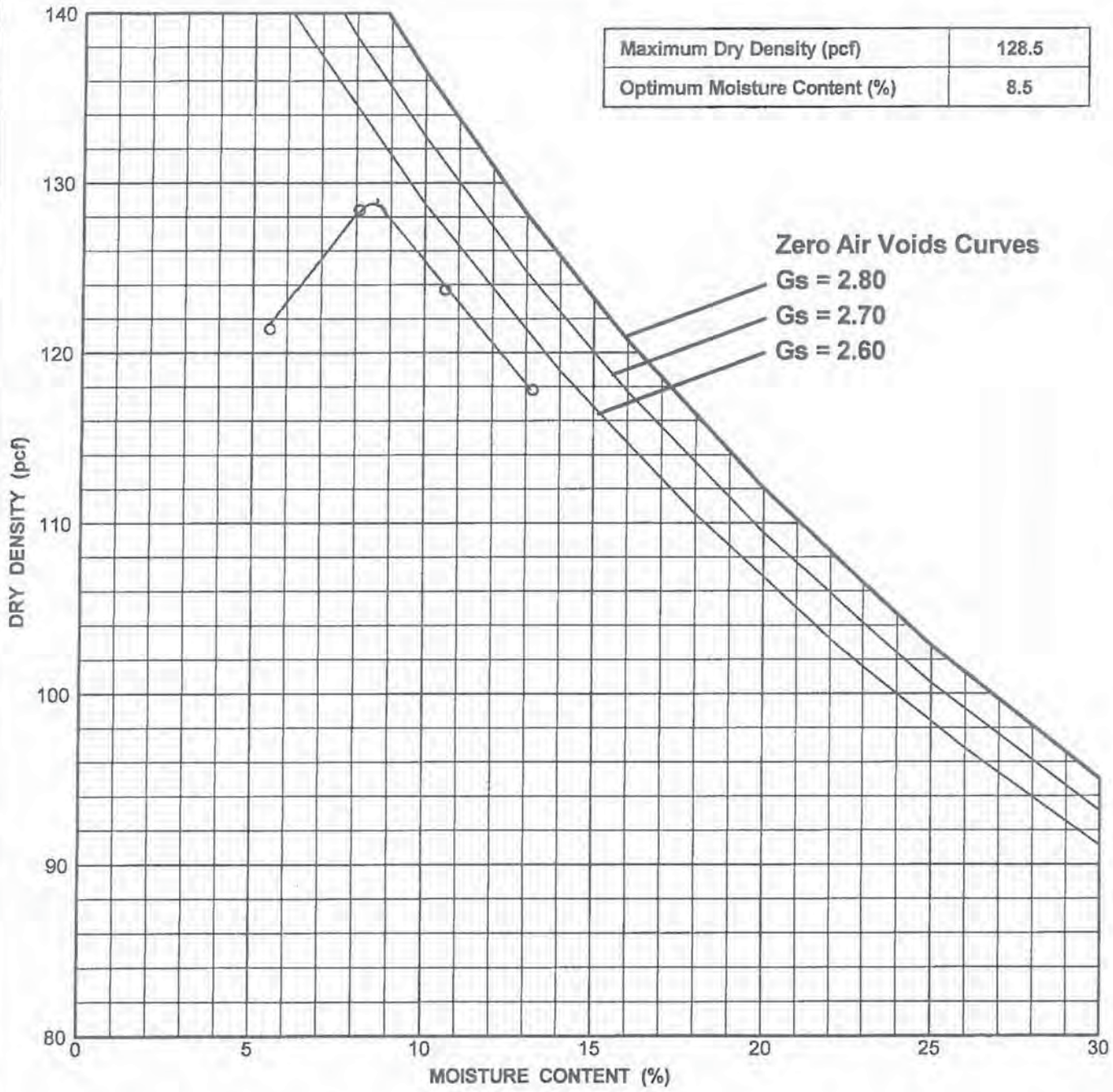
Boring No. HS-12	**Sample No. B-1**	**Depth: 2.0 ft**
Sample Description: (Af) Reddish Brown Silty SAND		
Liquid Limit:	**Plasticity Index:**	**Percent Passing No. 200 Sieve:** 21
Comments: 1557A		

COMPACTION TEST RESULTS

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

NMG Geotechnical, Inc.

Maximum Dry Density (pcf)	128.5
Optimum Moisture Content (%)	8.5



Boring No. HS-13	**Sample No. B-1**		**Depth: 2.0 ft**
Sample Description:	(Af) Brown Silty SAND		
Liquid Limit: NP	**Plasticity Index:**	NP	**Percent Passing No. 200 Sieve:** 27
Comments:	1557A		

COMPACTION TEST RESULTS

Fashion Island/Eastside
Newport Beach, California
PROJECT NO. 08034-01

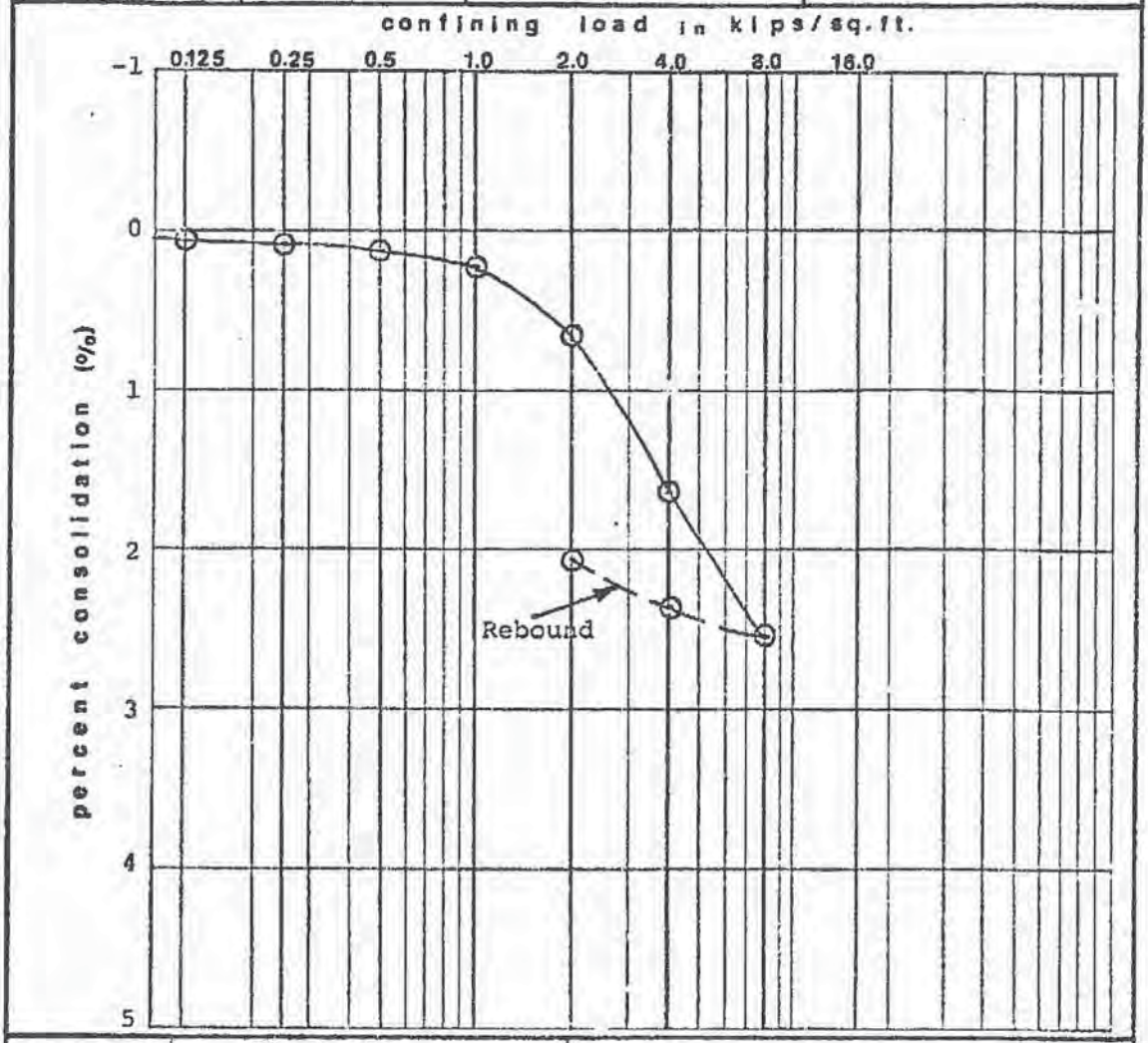
NMG Geotechnical, Inc.

LABORATORY TEST RESULTS BY

G.A. NICOLL & ASSOCIATES (1972)

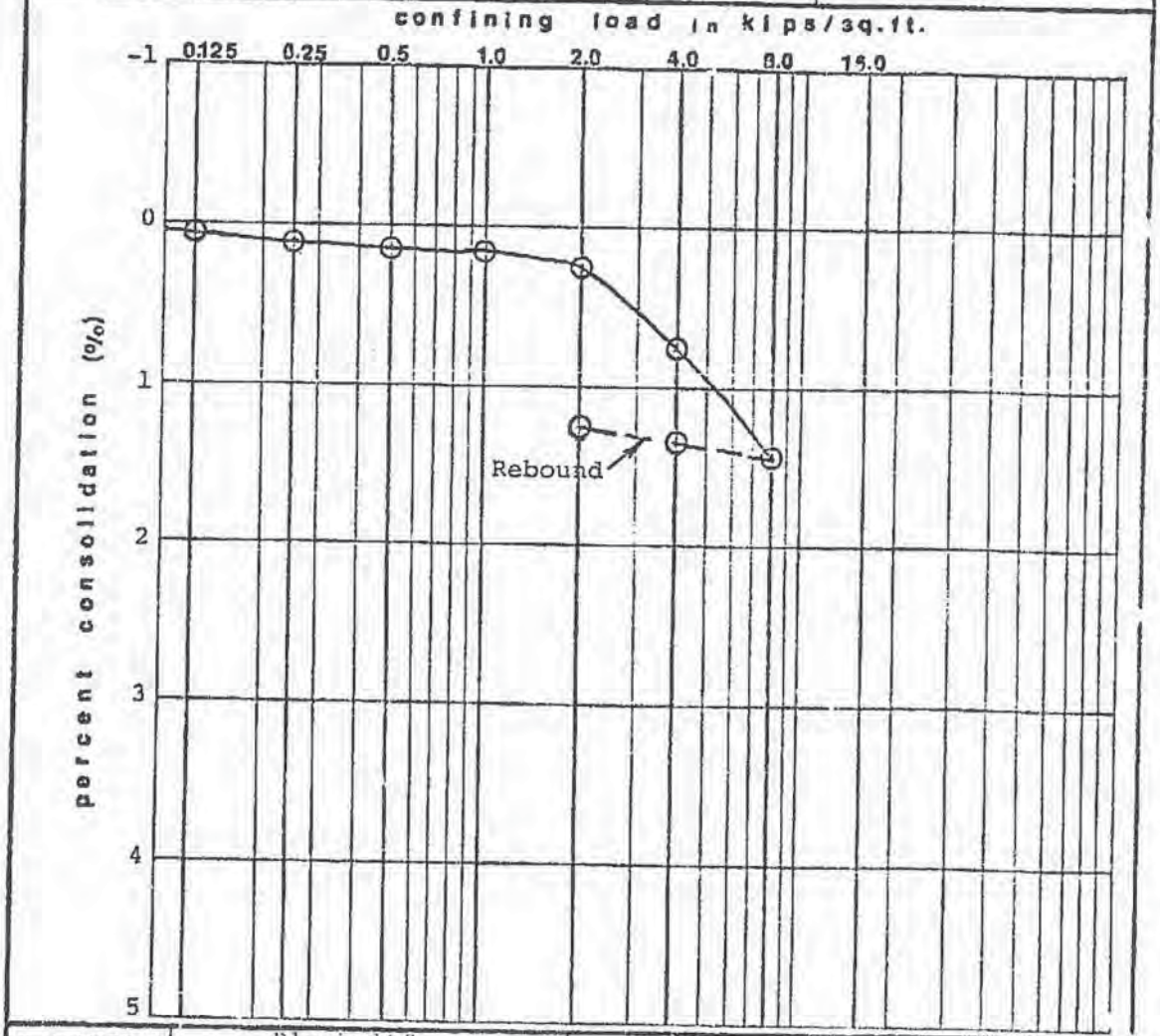
FOR SIX PROPOSED OFFICE BUILDINGS

symbol	specimen	boring no.	sample depth	sample condition	moisture condition
○	A	B-3	2.0 ft	Silty Sand, med/den.	Moist
◔	A				
⬡	B				
⬢	B				
▽	C				
▼	C				



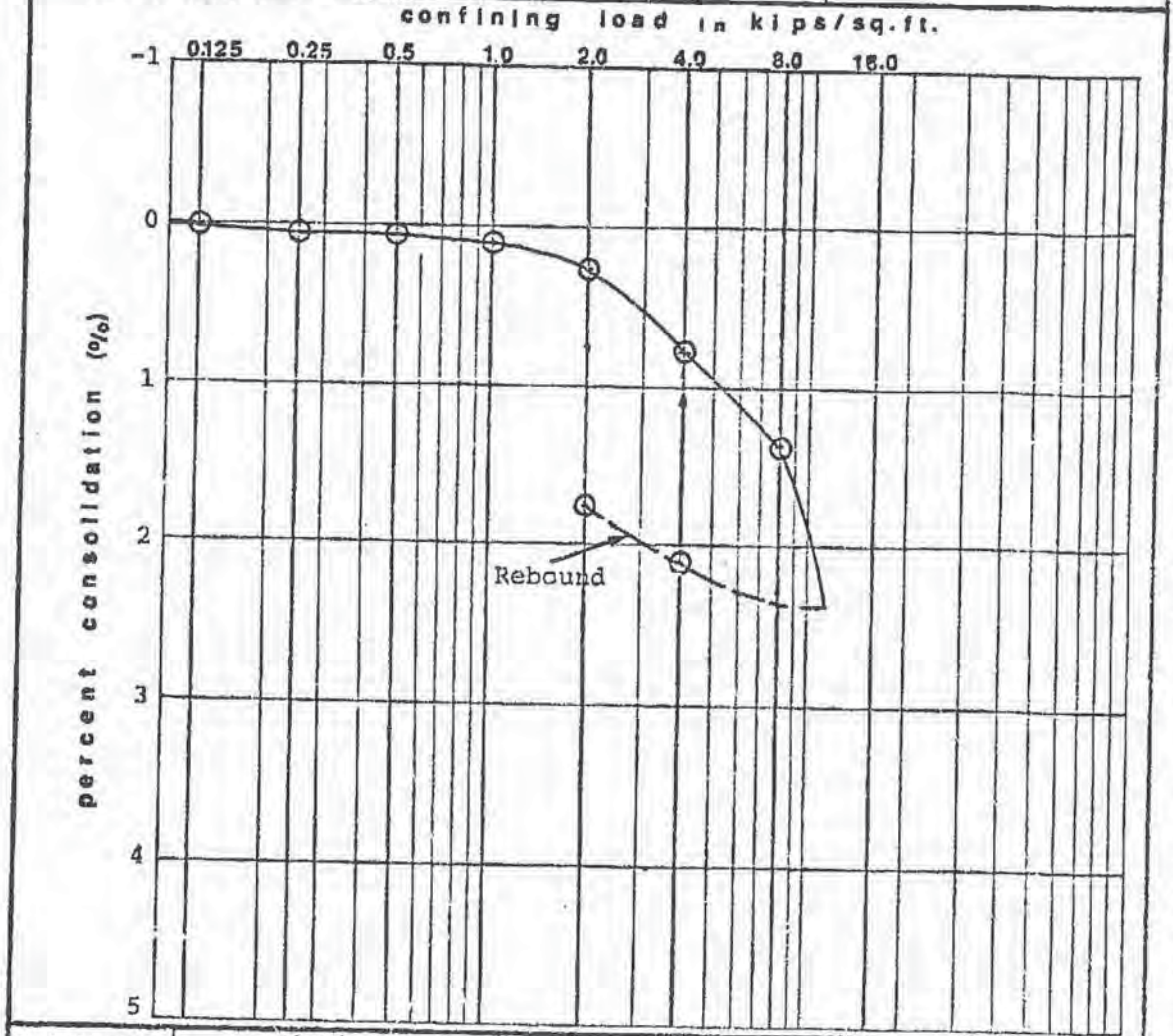
G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	CONSOLIDATION TEST	
		Project no. 1010	date Nov. 1972
			figure no. 2

symbol	specimen	boring no.	sample depth	sample condition	moisture condition
○	A	B-6	2.0 Ft.	Silty SAND, med/den.	Moist
◐	A				
⬡	B				
◑	B				
▽	C				
▽	C				



G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	CONSOLIDATION TEST Project no. 1010 | date Nov. 1972 | figure no. 3

symbol	specimen	boring no.	sample depth	sample condition	moisture condition
○	A	B-10	5.0 Ft.	Silty SAND, Med/den. Silty CLAY, Stiff	Moist
◑	A				
⬡	B				
◑	B				
▽	C				
◥	C				



G. A. NICOLL & ASSOCIATES	Block 100 Newport Center The Irvine Company	CONSOLIDATION TEST	
		Project no. 1010	date Nov. 1972
		figure no. 4	

DIRECT SHEAR TEST RESULTS

Boring Number	B-3	B-6	B-10
Sample Depth, Feet	2	2	5
Soil Classification	SM	SM	CL/SM
Normal Stress 1000 PSF Shear Stress, PSF	1016	508	508
Normal Stress 3000 PSF Shear Stress, PSF	2016	1760	1251
Normal Stress 8000 PSF Shear Stress, PSF	563	4653	3461
Angle of Internal Friction, Degrees	27-1/2	30-1/2	23
Apparent Cohesion, PSF	500	0	75

Table 1

LABORATORY TEST RESULTS BY

MOORE & TABER
(1975)

FOR GLENDALE FEDERAL BANK

MOORE & TABER-*Engineers-Geologists*

SOIL TEST RESULTS

BORING Nº / SAMPLE Nº	1/2	3/1	3/2		
DESCRIPTION	Light Brown fine SILTY SAND	Yellow-brown SANDY SILT	Light Brown SANDY SILT		
UNIFIED SOIL CLASSIFICATION	SM	ML	ML		
MECHANICAL ANALYSIS					
Passing Nº 200 sieve %					
ATTERBERG LIMITS					
Liquid Limit %					
Plastic Limit %					
Plastic Index %					
COMPACTION TEST *(ASTM D1557-66T)*					
Maximum Density (lbs/cu.ft)					
Optimum Moisture %					
EXPANSION TEST *(type)*	INDEX		INDEX		
Initial Dry Density (lbs./cu.ft.)	109.2		101.9		
Initial Moisture %	10.0		12.0		
Confining Pressure (lbs./sq.ft.)	144		144		
Expansion Index	0		21		
DIRECT SHEAR TEST *(type)*		UNDISTURBED			
Initial Moisture Content %		23.8 23.8 23.8			
Test Moisture Content %		SATURATED			
Normal Stress (lbs./sq.ft.)		990 1980 2970			
Peak Shear Stress (lbs./sq.ft.)		1610 2260 3680			
Ultimate Shear Stress (lbs./sq.ft.)		960 2090 2810			
Angle of Internal Friction (degrees)		40 (ult.)			
Cohesion (lbs/sq.ft.)		250 (ult.)			

Job No. 175-507 - January 31, 1975

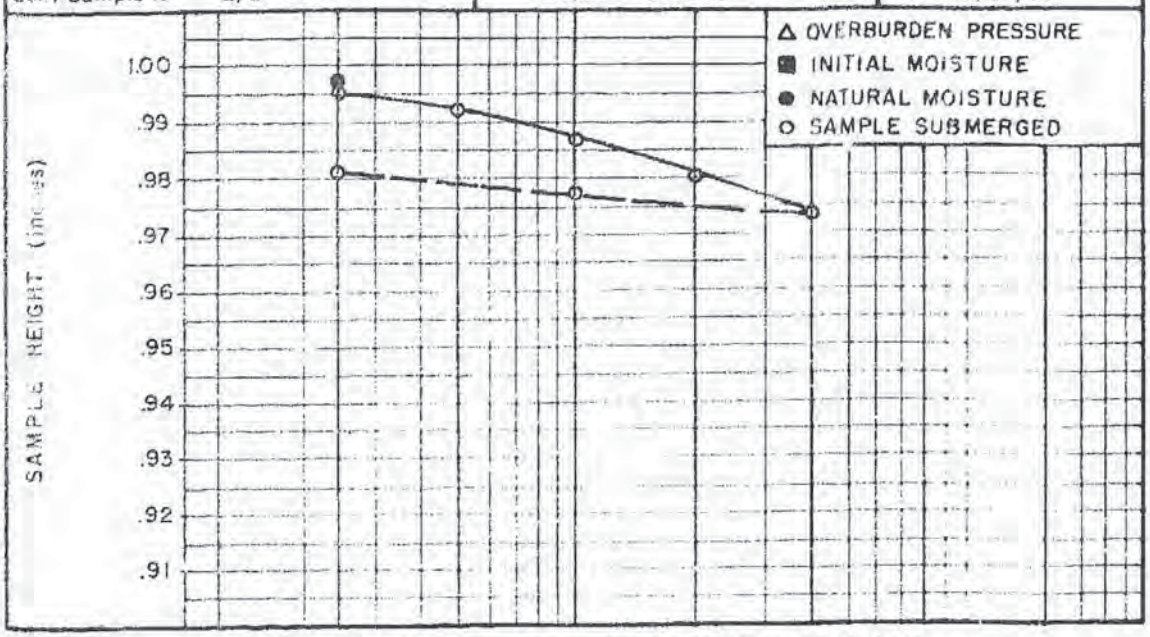
A-5

UP 8769

MOORE & TABER CONSULTING ENGINEERS AND GEOLOGISTS

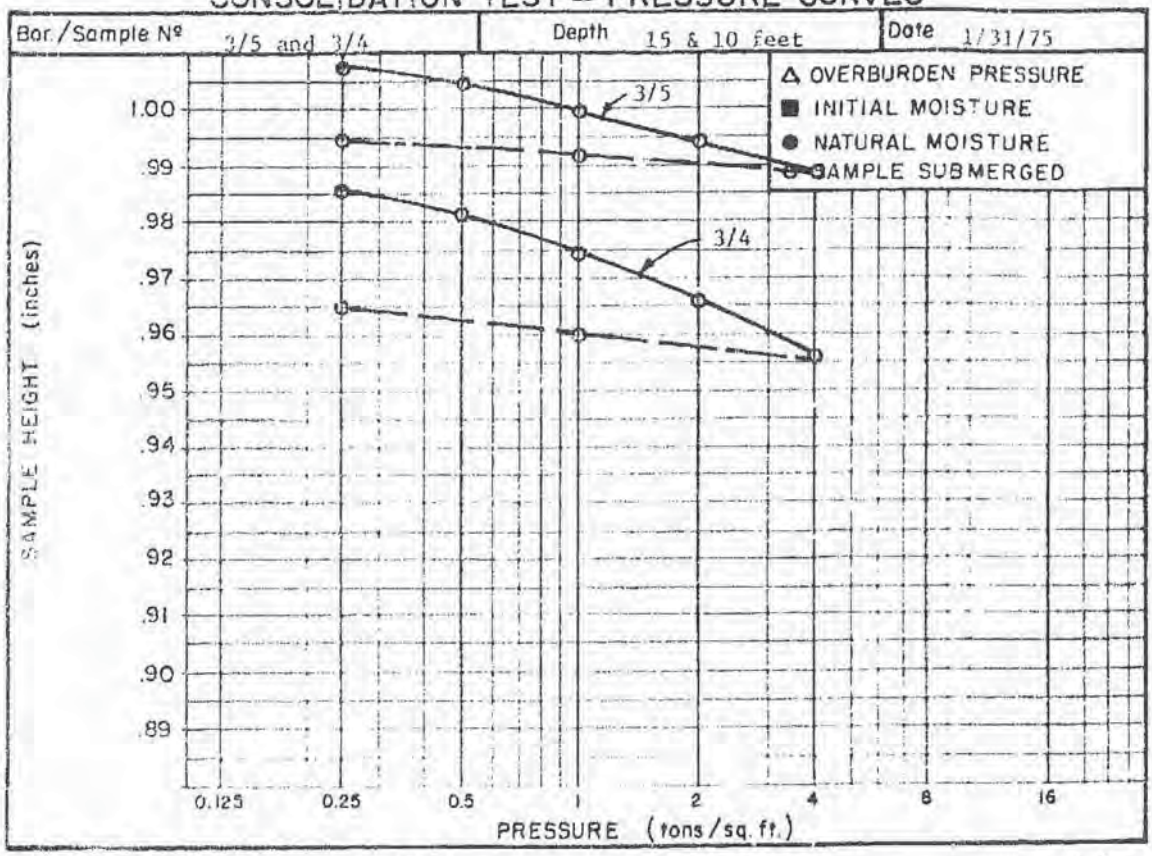
CONSOLIDATION TEST – PRESSURE CURVES

Bor./Sample Nº 2/2 | Depth 5 feet | Date 1/31/75



CONSOLIDATION TEST – PRESSURE CURVES

Bor./Sample Nº 3/5 and 3/4 | Depth 15 & 10 feet | Date 1/31/75



RESISTANCE VALUES

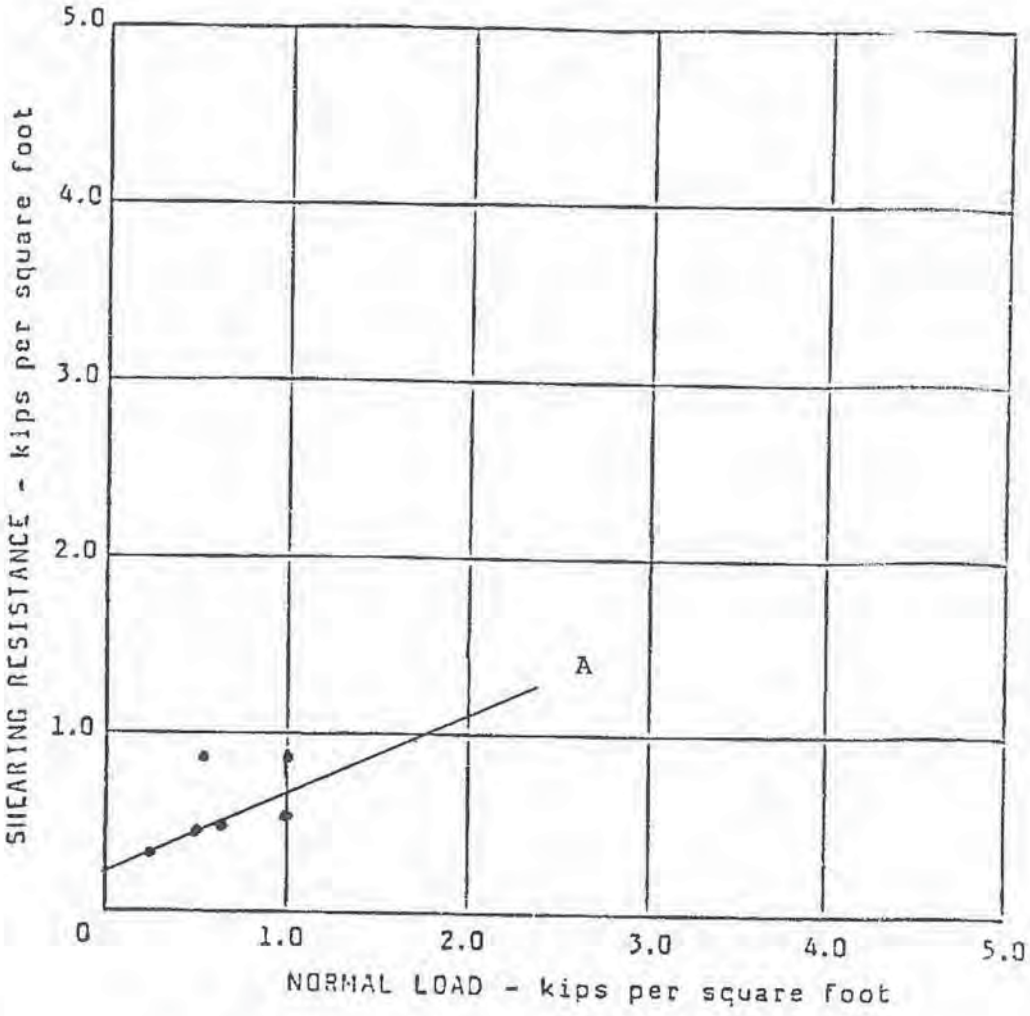
Moisture Content (%)	Dry Density (p.c.f.)	Exudation Pressure (p.s.i.)	Expansion Dial ($x10^{-4}$)	Stabilometer 'R' Value
12.8	121.1	400	0	45
13.7	118.6	215	0	38
14.6	116.5	175	0	28

LABORATORY TEST RESULTS BY

SOILS INTERNATIONAL
(1988)

FOR EDWARDS THEATER

DIRECT SHEAR TEST



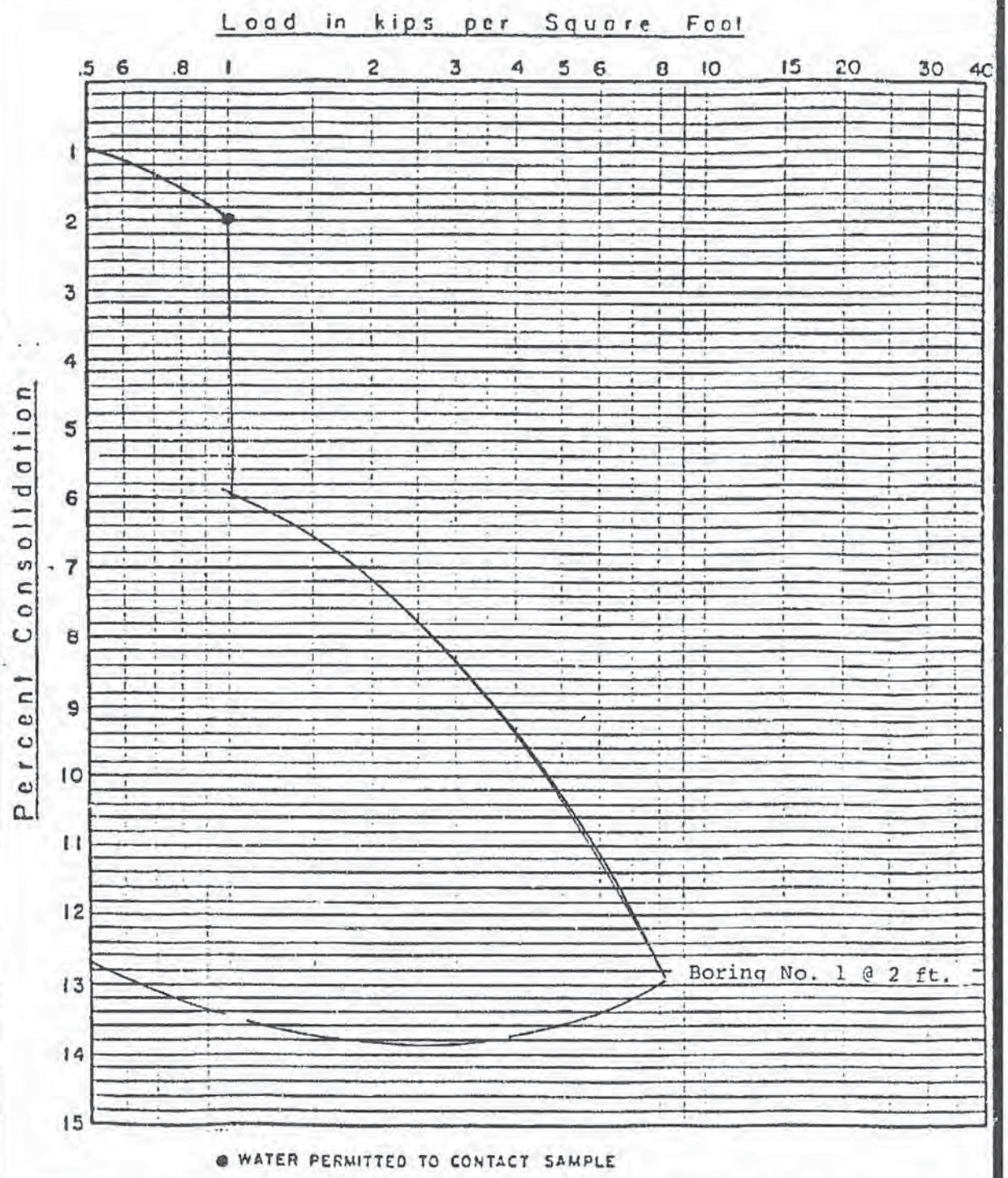
SYMBOL	LOCATION	DEPTH (FT.)	TEST CONDITION	COHESION (P.S.F.)	FRICTION (DEG.)
A	Boring No. 1	2-4	Saturated and Drained	200	20

Edwards Theatre
300 Newport Center Drive
Newport Beach, Calif.

PROJECT NO.	S1-093-F
PLATE	F

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

CONSOLIDATION TESTS



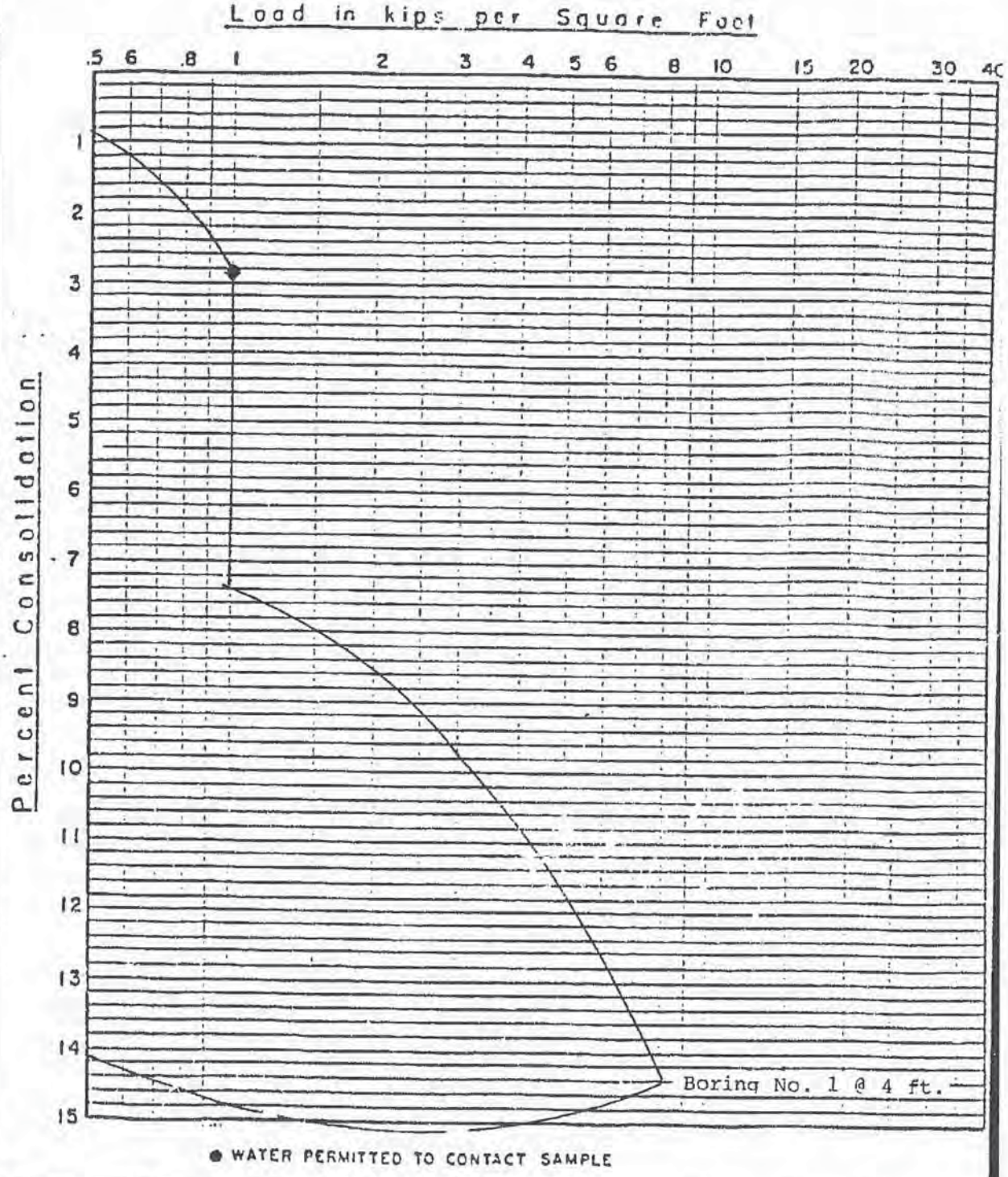
● WATER PERMITTED TO CONTACT SAMPLE

Edwards Theatre 300 Newport Center Drive Newport Beach, Calif.	PROJECT No.	S-1093-F
	PLATE	G

SOILS INTERNATIONAL

CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

CONSOLIDATION TESTS



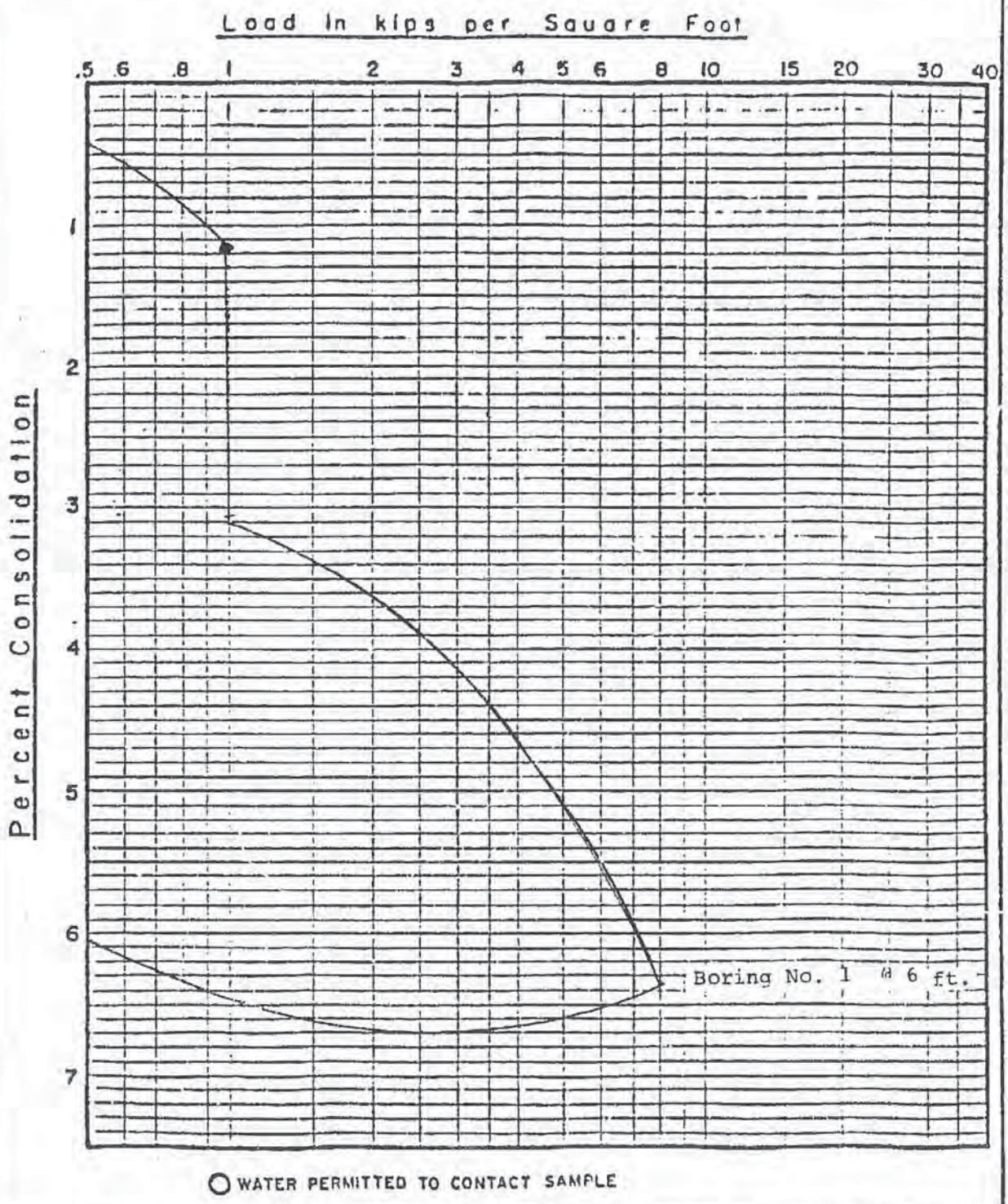
● WATER PERMITTED TO CONTACT SAMPLE

Edwards Theatre
300 Newport Center Drive
Newport Beach, Calif.

PROJECT No	S-1093-F
PLATE	H

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

CONSOLIDATION TESTS



○ WATER PERMITTED TO CONTACT SAMPLE

Edwards Theatre 300 Newport Center Drive Newport Beach, Calif.	PROJECT No	S-1093-F
	PLATE	I

SOILS INTERNATIONAL

CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

APPENDIX D

USGS Design Maps Detailed Report

ASCE 7-10 Standard (33.612°N, 117.875°W)

Site Class D – "Stiff Soil", Risk Category I/II/III

Section 11.4.1 — Mapped Acceleration Parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_S) and 1.3 (to obtain S_1). Maps in the 2010 ASCE-7 Standard are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 11.4.3.

From Figure 22-1 [1] $S_S = 1.681$ g

From Figure 22-2 [2] $S_1 = 0.615$ g

Section 11.4.2 — Site Class

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class D, based on the site soil properties in accordance with Chapter 20.

Table 20.3–1 Site Classification

Site Class	$\bar{v}_s$	$\bar{N}$ or $\bar{N}_{ch}$	$\bar{s}_u$
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf
	Any profile with more than 10 ft of soil having the characteristics: • Plasticity index $PI > 20$, • Moisture content $w \geq 40\%$, and • Undrained shear strength $\bar{s}_u < 500$ psf		
F. Soils requiring site response analysis in accordance with Section 21.1	See Section 20.3.1		

For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Section 11.4.3 — Site Coefficients and Risk–Targeted Maximum Considered Earthquake (MCE_R) Spectral Response Acceleration Parameters

Table 11.4–1: Site Coefficient F_a

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at Short Period				
	$S_S \le 0.25$	$S_S = 0.50$	$S_S = 0.75$	$S_S = 1.00$	$S_S \ge 1.25$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight–line interpolation for intermediate values of S_S

For Site Class = D and S_S = 1.681 g, F_a = 1.000

Table 11.4–2: Site Coefficient F_v

Site Class	Mapped MCE_R Spectral Response Acceleration Parameter at 1–s Period				
	$S_1 \le 0.10$	$S_1 = 0.20$	$S_1 = 0.30$	$S_1 = 0.40$	$S_1 \ge 0.50$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	See Section 11.4.7 of ASCE 7				

Note: Use straight–line interpolation for intermediate values of S_1

For Site Class = D and S_1 = 0.615 g, F_v = 1.500

Equation (11.4–1): $S_{MS} = F_a S_S = 1.000 \times 1.681 = 1.681$ g

Equation (11.4–2): $S_{M1} = F_v S_1 = 1.500 \times 0.615 = 0.922$ g

Section 11.4.4 — Design Spectral Acceleration Parameters

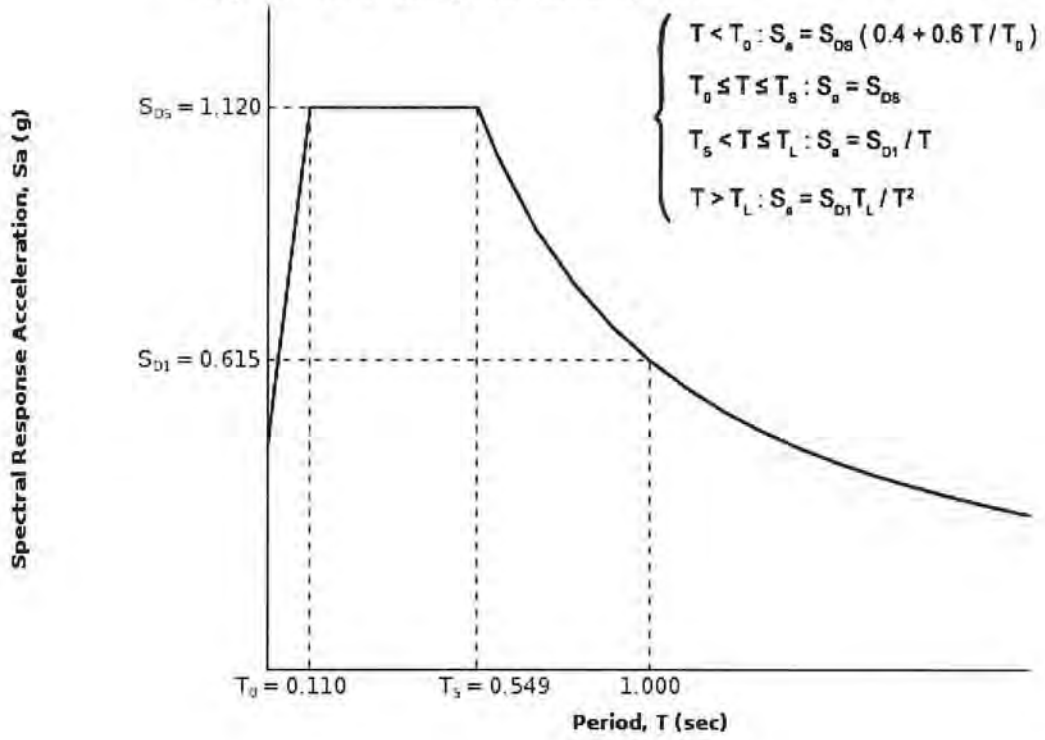
Equation (11.4–3): $S_{DS} = \frac{2}{3} S_{MS} = \frac{2}{3} \times 1.681 = 1.120$ g

Equation (11.4–4): $S_{D1} = \frac{2}{3} S_{M1} = \frac{2}{3} \times 0.922 = 0.615$ g

Section 11.4.5 — Design Response Spectrum

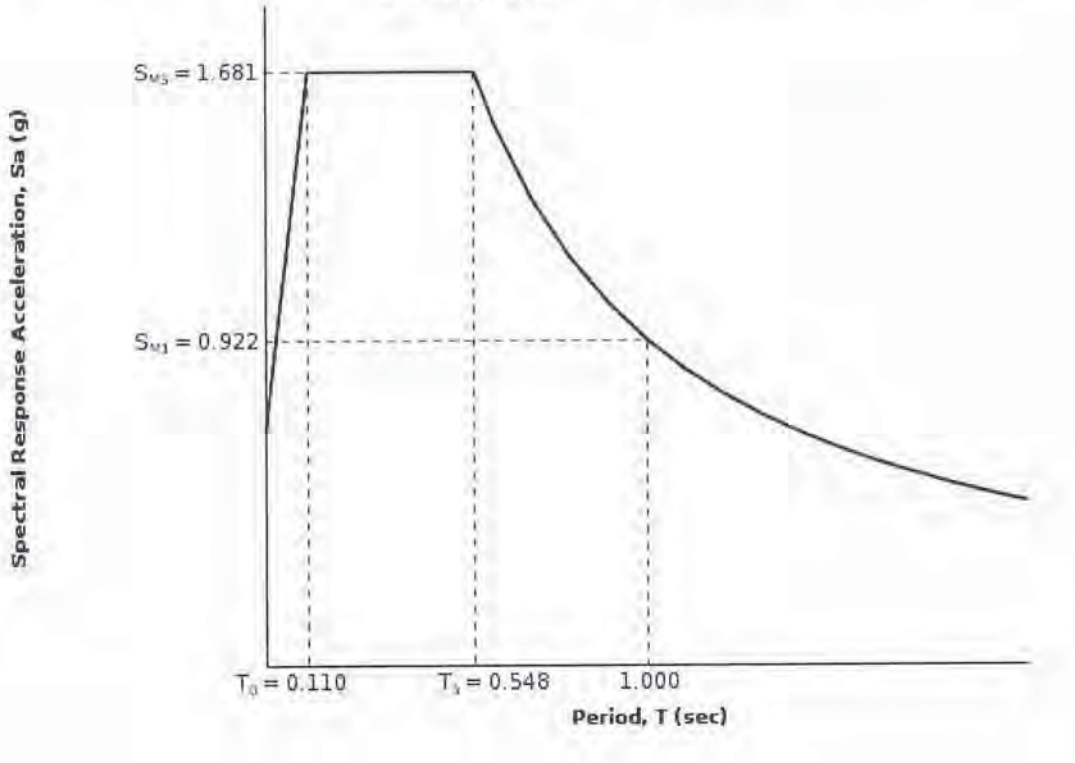
From Figure 22-12 [3] $T_L = 8$ seconds

Figure 11.4–1: Design Response Spectrum



Section 11.4.6 — Risk-Targeted Maximum Considered Earthquake (MCE_R) Response Spectrum

The MCE_R Response Spectrum is determined by multiplying the design response spectrum above by 1.5.



Section 11.8.3 — Additional Geotechnical Investigation Report Requirements for Seismic Design Categories D through F

From Figure 22-7 [4] PGA = 0.685

Equation (11.8–1): $PGA_M = F_{PGA}PGA = 1.000 \times 0.685 = 0.685$ g

Table 11.8–1: Site Coefficient F_{PGA}

Site Class	Mapped MCE Geometric Mean Peak Ground Acceleration, PGA				
	PGA ≤ 0.10	PGA = 0.20	PGA = 0.30	PGA = 0.40	PGA ≥ 0.50
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight–line interpolation for intermediate values of PGA

For Site Class = D and PGA = 0.685 g, F_{PGA} = 1.000

Section 21.2.1.1 — Method 1 (from Chapter 21 – Site-Specific Ground Motion Procedures for Seismic Design)

From Figure 22-17 [5] C_{RS} = 0.909

From Figure 22-18 [6] C_{R1} = 0.930

Section 11.6 — Seismic Design Category

Table 11.6-1 Seismic Design Category Based on Short Period Response Acceleration Parameter

VALUE OF S_{DS}	RISK CATEGORY		
	I or II	III	IV
$S_{DS} < 0.167g$	A	A	A
$0.167g \le S_{DS} < 0.33g$	B	B	C
$0.33g \le S_{DS} < 0.50g$	C	C	D
$0.50g \le S_{DS}$	D	D	D

For Risk Category = I and S_{DS} = 1.120 g, Seismic Design Category = D

Table 11.6-2 Seismic Design Category Based on 1-S Period Response Acceleration Parameter

VALUE OF S_{D1}	RISK CATEGORY		
	I or II	III	IV
$S_{D1} < 0.067g$	A	A	A
$0.067g \le S_{D1} < 0.133g$	B	B	C
$0.133g \le S_{D1} < 0.20g$	C	C	D
$0.20g \le S_{D1}$	D	D	D

For Risk Category = I and S_{D1} = 0.615 g, Seismic Design Category = D

Note: When S_1 is greater than or equal to 0.75g, the Seismic Design Category is **E** for buildings in Risk Categories I, II, and III, and **F** for those in Risk Category IV, irrespective of the above.

Seismic Design Category ≡ "the more severe design category in accordance with Table 11.6-1 or 11.6-2" = D

Note: See Section 11.6 for alternative approaches to calculating Seismic Design Category.

References

1. *Figure 22-1*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-1.pdf
2. *Figure 22-2*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-2.pdf
3. *Figure 22-12*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-12.pdf
4. *Figure 22-7*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-7.pdf
5. *Figure 22-17*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-17.pdf
6. *Figure 22-18*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/2010_ASCE-7_Figure_22-18.pdf

*** Deaggregation of Seismic Hazard at One Period of Spectral Accel. ***
*** Data from U.S.G.S. National Seismic Hazards Mapping Project, 2008 version ***
PSHA Deaggregation. %contributions. site: 150_Newport_Cen long: 117.875 W., lat: 33.612 N.
Vs30(m/s)= 260.0 (some WUS atten. models use Site Class not Vs30).
NSHMP 2007-08 See USGS OFR 2008-1128. dM=0.2 below
Return period: 2475 yrs. Exceedance PGA =0.6372 g. Weight * Computed_Rate_Ex 0.404E-03
#Pr[at least one eq with median motion>=PGA in 50 yrs]=0.00391
#This deaggregation corresponds to Mean Hazard w/all GMPEs

DIST(KM)	MAG(MW)	ALL_EPS	EPSILON>2	1<EPS<2	0<EPS<1	-1<EPS<0	-2<EPS<-1	EPS<-2
6.3	5.05	1.100	0.611	0.489	0.000	0.000	0.000	0.000
12.7	5.05	0.141	0.141	0.000	0.000	0.000	0.000	0.000
6.3	5.20	2.225	1.014	1.211	0.000	0.000	0.000	0.000
12.9	5.20	0.375	0.375	0.000	0.000	0.000	0.000	0.000
6.4	5.40	2.182	0.809	1.268	0.105	0.000	0.000	0.000
13.1	5.40	0.514	0.514	0.000	0.000	0.000	0.000	0.000
6.5	5.60	2.010	0.645	1.156	0.209	0.000	0.000	0.000
13.3	5.60	0.641	0.633	0.008	0.000	0.000	0.000	0.000
6.5	5.80	1.745	0.467	1.048	0.230	0.000	0.000	0.000
13.5	5.80	0.717	0.673	0.044	0.000	0.000	0.000	0.000
7.1	6.02	2.237	0.638	1.401	0.199	0.000	0.000	0.000
14.3	5.99	0.687	0.612	0.075	0.000	0.000	0.000	0.000
23.2	6.01	0.078	0.078	0.000	0.000	0.000	0.000	0.000
7.4	6.20	2.859	0.725	1.885	0.249	0.000	0.000	0.000
14.6	6.20	0.859	0.693	0.166	0.000	0.000	0.000	0.000
24.1	6.21	0.135	0.135	0.000	0.000	0.000	0.000	0.000
7.5	6.40	2.699	0.545	1.788	0.365	0.000	0.000	0.000
14.5	6.40	1.021	0.692	0.330	0.000	0.000	0.000	0.000
24.9	6.41	0.213	0.213	0.000	0.000	0.000	0.000	0.000
32.9	6.41	0.116	0.116	0.000	0.000	0.000	0.000	0.000
5.4	6.61	14.179	1.326	6.369	6.137	0.347	0.000	0.000
13.4	6.60	0.542	0.339	0.202	0.000	0.000	0.000	0.000
25.6	6.60	0.240	0.240	0.000	0.000	0.000	0.000	0.000
34.2	6.59	0.288	0.288	0.000	0.000	0.000	0.000	0.000
5.2	6.80	16.718	1.556	7.539	7.028	0.594	0.000	0.000
13.6	6.79	0.573	0.315	0.258	0.000	0.000	0.000	0.000
25.2	6.79	0.280	0.279	0.001	0.000	0.000	0.000	0.000
34.6	6.78	0.739	0.739	0.000	0.000	0.000	0.000	0.000
5.1	6.97	19.615	1.679	8.445	8.435	1.048	0.007	0.000
13.6	6.98	0.368	0.172	0.193	0.003	0.000	0.000	0.000
24.3	7.02	0.461	0.389	0.072	0.000	0.000	0.000	0.000
34.0	6.98	0.780	0.735	0.045	0.000	0.000	0.000	0.000
45.5	7.00	0.096	0.096	0.000	0.000	0.000	0.000	0.000
5.1	7.15	9.071	0.809	3.756	3.735	0.753	0.018	0.000
13.1	7.16	0.085	0.030	0.052	0.004	0.000	0.000	0.000
23.6	7.20	0.694	0.486	0.207	0.000	0.000	0.000	0.000
35.3	7.20	0.695	0.574	0.121	0.000	0.000	0.000	0.000
4.5	7.39	4.252	0.434	1.888	1.723	0.205	0.003	0.000
23.5	7.36	0.857	0.487	0.370	0.000	0.000	0.000	0.000
35.9	7.37	0.416	0.330	0.086	0.000	0.000	0.000	0.000
75.7	7.42	0.074	0.074	0.000	0.000	0.000	0.000	0.000
4.1	7.55	2.356	0.275	1.314	0.731	0.036	0.000	0.000
23.6	7.58	0.353	0.179	0.174	0.000	0.000	0.000	0.000
35.4	7.57	0.346	0.268	0.078	0.000	0.000	0.000	0.000
45.4	7.57	0.150	0.127	0.022	0.000	0.000	0.000	0.000
75.6	7.60	0.146	0.146	0.000	0.000	0.000	0.000	0.000
83.0	7.56	0.067	0.067	0.000	0.000	0.000	0.000	0.000
4.1	7.71	0.353	0.036	0.164	0.139	0.014	0.000	0.000
23.5	7.74	0.803	0.355	0.448	0.000	0.000	0.000	0.000
35.0	7.76	0.489	0.354	0.135	0.000	0.000	0.000	0.000
45.5	7.74	0.137	0.108	0.029	0.000	0.000	0.000	0.000
74.3	7.80	0.143	0.143	0.000	0.000	0.000	0.000	0.000

83.1	7.77	0.143	0.143	0.000	0.000	0.000	0.000	0.000
23.5	7.91	0.100	0.041	0.060	0.000	0.000	0.000	0.000
35.1	7.93	0.056	0.038	0.019	0.000	0.000	0.000	0.000
83.1	7.98	0.286	0.286	0.000	0.000	0.000	0.000	0.000

Summary statistics for above PSHA PGA deaggregation, R=distance, e=epsilon:
Contribution from this GMPE(%): 100.0
Mean src-site R= 9.0 km; M= 6.71; eps0= 0.79. Mean calculated for all sources.
Modal src-site R= 5.1 km; M= 6.97; eps0= 0.33 from peak (R,M) bin
MODE R*= 5.0km; M*= 6.97; EPS.INTERVAL: 1 to 2 sigma % CONTRIB.= 8.445

Principal sources (faults, subduction, random seismicity having > 3% contribution)

Source Category:	% contr.	R(km)	M	epsilon0 (mean values).
California B-faults Char	42.73	6.9	7.06	0.53
California B-faults GR	28.33	6.5	6.78	0.43
California A-faults	4.22	46.0	7.36	2.21
CA Compr. crustal gridded	24.71	9.0	5.90	1.39

Individual fault hazard details if its contribution to mean hazard > 2%:

Fault ID	% contr.	Rcd(km)	M	epsilon0	Site-to-src azimuth(d)
Newport-Inglewood (Offshore) Cha	11.05	4.1	6.88	0.83	-139.3
Newport-Inglewood, alt 1 Char	2.13	5.4	7.15	0.75	-85.1
Newport-Inglewood, alt 2 Char	2.39	4.6	7.15	0.68	-98.2
San Joaquin Hills Char	18.56	5.4	6.97	0.04	4.3
Newport Inglewood Connected alt	2.46	4.1	7.50	0.53	-139.3
Newport Inglewood Connected alt	2.45	4.1	7.50	0.53	-139.3
Newport-Inglewood (Offshore) GR	2.39	7.6	6.71	1.15	-176.7
San Joaquin Hills GR	20.28	5.5	6.73	0.16	5.6

#*********End of deaggregation corresponding to Mean Hazard w/all GMPEs *********#

PSHA Deaggregation. %contributions. site: 150_Newport_Cen long: 117.875 W., lat: 33.612 N.
Vs30(m/s)= 260.0 (some WUS atten. models use Site Class not Vs30).
NSHMP 2007-08 See USGS OFR 2008-1128. dM=0.2 below
Return period: 2475 yrs. Exceedance PGA =0.6372 g. Weight * Computed_Rate_Ex 0.144E-03
#Pr[at least one eq with median motion>=PGA in 50 yrs]=0.00045
#This deaggregation corresponds to Boore-Atkinson 2008

DIST(KM)	MAG(MW)	ALL_EPS	EPSILON>2	1<EPS<2	0<EPS<1	-1<EPS<0	-2<EPS<-1	EPS<-2
5.9	5.05	0.194	0.186	0.008	0.000	0.000	0.000	0.000
6.0	5.20	0.413	0.357	0.056	0.000	0.000	0.000	0.000
6.1	5.40	0.428	0.341	0.088	0.000	0.000	0.000	0.000
12.9	5.41	0.038	0.038	0.000	0.000	0.000	0.000	0.000
6.2	5.60	0.423	0.323	0.099	0.000	0.000	0.000	0.000
13.4	5.61	0.083	0.083	0.000	0.000	0.000	0.000	0.000
6.3	5.80	0.400	0.291	0.109	0.000	0.000	0.000	0.000
13.8	5.80	0.132	0.132	0.000	0.000	0.000	0.000	0.000
6.7	6.02	0.544	0.367	0.177	0.000	0.000	0.000	0.000
14.8	6.00	0.164	0.164	0.000	0.000	0.000	0.000	0.000
23.8	6.01	0.040	0.040	0.000	0.000	0.000	0.000	0.000
7.0	6.20	0.696	0.472	0.224	0.000	0.000	0.000	0.000
15.2	6.20	0.237	0.237	0.000	0.000	0.000	0.000	0.000
24.6	6.21	0.079	0.079	0.000	0.000	0.000	0.000	0.000
33.0	6.23	0.026	0.026	0.000	0.000	0.000	0.000	0.000
7.2	6.40	0.651	0.409	0.242	0.000	0.000	0.000	0.000
15.1	6.40	0.298	0.298	0.001	0.000	0.000	0.000	0.000
25.4	6.41	0.131	0.131	0.000	0.000	0.000	0.000	0.000
32.9	6.41	0.112	0.112	0.000	0.000	0.000	0.000	0.000
5.3	6.61	4.204	0.566	2.243	1.395	0.000	0.000	0.000
13.8	6.60	0.254	0.195	0.059	0.000	0.000	0.000	0.000
25.7	6.60	0.207	0.207	0.000	0.000	0.000	0.000	0.000
34.2	6.59	0.287	0.287	0.000	0.000	0.000	0.000	0.000
5.1	6.79	5.230	0.631	2.829	1.770	0.000	0.000	0.000

14.1	6.79	0.285	0.196	0.088	0.000	0.000	0.000	0.000
25.3	6.79	0.237	0.237	0.000	0.000	0.000	0.000	0.000
34.6	6.78	0.733	0.733	0.000	0.000	0.000	0.000	0.000
45.4	6.79	0.044	0.044	0.000	0.000	0.000	0.000	0.000
56.8	6.77	0.018	0.018	0.000	0.000	0.000	0.000	0.000
5.0	6.97	6.459	0.713	3.601	2.102	0.043	0.000	0.000
14.1	6.99	0.198	0.109	0.088	0.001	0.000	0.000	0.000
24.3	7.02	0.383	0.317	0.066	0.000	0.000	0.000	0.000
34.0	6.98	0.754	0.709	0.045	0.000	0.000	0.000	0.000
45.5	7.00	0.095	0.095	0.000	0.000	0.000	0.000	0.000
57.3	7.04	0.023	0.023	0.000	0.000	0.000	0.000	0.000
5.1	7.15	2.988	0.301	1.442	1.168	0.077	0.000	0.000
13.5	7.16	0.051	0.016	0.032	0.002	0.000	0.000	0.000
23.6	7.20	0.567	0.380	0.187	0.000	0.000	0.000	0.000
35.3	7.20	0.644	0.523	0.120	0.000	0.000	0.000	0.000
45.3	7.19	0.030	0.030	0.000	0.000	0.000	0.000	0.000
57.7	7.20	0.032	0.032	0.000	0.000	0.000	0.000	0.000
74.8	7.25	0.034	0.034	0.000	0.000	0.000	0.000	0.000
4.4	7.42	2.155	0.234	1.254	0.660	0.007	0.000	0.000
23.5	7.37	0.680	0.366	0.313	0.000	0.000	0.000	0.000
35.9	7.37	0.381	0.295	0.086	0.000	0.000	0.000	0.000
45.2	7.40	0.027	0.026	0.001	0.000	0.000	0.000	0.000
57.6	7.34	0.037	0.037	0.000	0.000	0.000	0.000	0.000
75.7	7.42	0.074	0.074	0.000	0.000	0.000	0.000	0.000
83.3	7.38	0.026	0.026	0.000	0.000	0.000	0.000	0.000
4.1	7.60	0.446	0.063	0.250	0.133	0.000	0.000	0.000
23.7	7.59	0.242	0.107	0.134	0.000	0.000	0.000	0.000
35.4	7.57	0.306	0.228	0.078	0.000	0.000	0.000	0.000
45.4	7.57	0.141	0.119	0.022	0.000	0.000	0.000	0.000
75.6	7.60	0.146	0.146	0.000	0.000	0.000	0.000	0.000
83.0	7.56	0.067	0.067	0.000	0.000	0.000	0.000	0.000
4.1	7.71	0.141	0.015	0.077	0.049	0.000	0.000	0.000
23.5	7.74	0.549	0.207	0.342	0.000	0.000	0.000	0.000
34.9	7.76	0.410	0.277	0.133	0.000	0.000	0.000	0.000
45.5	7.74	0.125	0.096	0.029	0.000	0.000	0.000	0.000
74.3	7.80	0.143	0.143	0.000	0.000	0.000	0.000	0.000
83.1	7.77	0.143	0.143	0.000	0.000	0.000	0.000	0.000
23.5	7.92	0.043	0.018	0.025	0.000	0.000	0.000	0.000
35.3	7.93	0.039	0.025	0.015	0.000	0.000	0.000	0.000
83.1	7.98	0.282	0.282	0.000	0.000	0.000	0.000	0.000
82.5	8.20	0.030	0.030	0.000	0.000	0.000	0.000	0.000

Summary statistics for above PSHA PGA deaggregation, R=distance, e=epsilon:
Contribution from this GMPE(%): 35.6
Mean src-site R= 13.2 km; M= 6.87; eps0= 1.12. Mean calculated for all sources.
Modal src-site R= 5.0 km; M= 6.97; eps0= 0.64 from peak (R,M) bin
MODE R*= 4.9km; M*= 6.97; EPS.INTERVAL: 1 to 2 sigma % CONTRIB.= 3.601

Principal sources (faults, subduction, random seismicity having > 3% contribution)

Source Category:	% contr.	R(km)	M	epsilon0 (mean values).
California B-faults Char	16.25	9.0	7.09	0.86
California B-faults GR	9.58	8.2	6.82	0.82
California A-faults	4.01	46.5	7.34	2.20
CA Compr. crustal gridded	5.77	10.1	6.02	1.61

Individual fault hazard details if its contribution to mean hazard > 2%:

Fault ID	% contr.	Rcd(km)	M	epsilon0	Site-to-src azimuth(d)
Newport-Inglewood (Offshore) Cha	4.53	4.1	6.88	0.93	-139.3
Newport-Inglewood, alt 1 Char	0.90	5.4	7.15	0.84	-85.1
Newport-Inglewood, alt 2 Char	0.97	4.6	7.15	0.80	-98.2
San Joaquin Hills Char	5.00	5.4	6.97	0.34	4.3
Newport Inglewood Connected alt	0.99	4.1	7.50	0.66	-139.3
Newport Inglewood Connected alt	0.97	4.1	7.50	0.67	-139.3

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Newport-Inglewood (Offshore) GR     1.06     8.6   6.71    1.33    -176.7
San Joaquin Hills GR                5.51     5.5   6.73    0.42       5.6
#*********End of deaggregation corresponding to Boore-Atkinson 2008      *********#

PSHA Deaggregation. %contributions. site: 150_Newport_Cen long: 117.875 W., lat:
33.612 N.
 Vs30(m/s)= 260.0 (some WUS atten. models use Site Class not Vs30).
NSHMP 2007-08  See USGS OFR 2008-1128. dM=0.2 below
Return period: 2475  yrs. Exceedance PGA =0.6372   g. Weight * Computed_Rate_Ex
0.675E-04
#Pr[at least one eq with median motion>=PGA in 50 yrs]=0.00211
#This deaggregation corresponds to Campbell-Bozorgnia 2008
DIST(KM) MAG(MW) ALL_EPS EPSILON>2  1<EPS<2 0<EPS<1 -1<EPS<0 -2<EPS<-1 EPS<-2
    6.2     5.05    0.162    0.162    0.000    0.000    0.000     0.000    0.000
    6.3     5.20    0.394    0.338    0.056    0.000    0.000     0.000    0.000
   12.3     5.22    0.019    0.019    0.000    0.000    0.000     0.000    0.000
    6.4     5.40    0.477    0.365    0.112    0.000    0.000     0.000    0.000
   12.7     5.41    0.061    0.061    0.000    0.000    0.000     0.000    0.000
    6.5     5.60    0.469    0.334    0.136    0.000    0.000     0.000    0.000
   13.0     5.60    0.102    0.102    0.000    0.000    0.000     0.000    0.000
    6.6     5.80    0.391    0.265    0.126    0.000    0.000     0.000    0.000
   13.2     5.80    0.113    0.113    0.000    0.000    0.000     0.000    0.000
    7.1     6.01    0.455    0.349    0.106    0.000    0.000     0.000    0.000
   13.9     5.99    0.106    0.106    0.000    0.000    0.000     0.000    0.000
    7.4     6.20    0.596    0.454    0.142    0.000    0.000     0.000    0.000
   14.1     6.20    0.138    0.138    0.000    0.000    0.000     0.000    0.000
    7.5     6.40    0.612    0.401    0.211    0.000    0.000     0.000    0.000
   14.1     6.40    0.176    0.176    0.000    0.000    0.000     0.000    0.000
   24.1     6.42    0.016    0.016    0.000    0.000    0.000     0.000    0.000
    5.4     6.61    3.309    0.362    1.355    1.526    0.067     0.000    0.000
   13.4     6.60    0.059    0.056    0.003    0.000    0.000     0.000    0.000
   25.3     6.60    0.010    0.010    0.000    0.000    0.000     0.000    0.000
    5.4     6.80    3.396    0.389    1.404    1.525    0.077     0.000    0.000
   13.6     6.80    0.059    0.056    0.003    0.000    0.000     0.000    0.000
   25.7     6.78    0.010    0.010    0.000    0.000    0.000     0.000    0.000
    5.4     6.96    3.560    0.368    1.317    1.714    0.162     0.000    0.000
   13.5     6.95    0.028    0.026    0.002    0.000    0.000     0.000    0.000
    5.4     7.13    1.602    0.168    0.567    0.708    0.159     0.000    0.000
    4.7     7.38    0.308    0.096    0.137    0.061    0.014     0.000    0.000
    4.1     7.61    0.041    0.018    0.022    0.000    0.000     0.000    0.000
    4.1     7.71    0.014    0.006    0.008    0.000    0.000     0.000    0.000

Summary statistics for above PSHA PGA  deaggregation, R=distance, e=epsilon:
Contribution from this GMPE(%):   16.7
 Mean src-site R=    6.2 km; M= 6.59; eps0=   0.72. Mean calculated for all sources.
Modal src-site R=    5.4 km; M= 6.96; eps0=   0.35 from peak (R,M) bin
 MODE R*=   5.4km; M*= 6.95; EPS.INTERVAL: 1 to 2 sigma  % CONTRIB.=  1.714

Principal sources (faults, subduction, random seismicity having > 3% contribution)
Source Category:                  % contr.  R(km)    M   epsilon0 (mean values).
California B-faults Char             5.99     5.4   6.99    0.43
California B-faults GR               5.90     5.4   6.73    0.34
CA Compr. crustal gridded            4.84     8.1   5.94    1.53
Individual fault hazard details if its contribution to mean hazard > 2%:
Fault ID                          % contr.   Rcd(km)  M   epsilon0 Site-to-src
azimuth(d)
Newport-Inglewood (Offshore) Cha     0.37     4.1   6.90    1.92    -139.3
Newport-Inglewood, alt 1 Char        0.08     5.4   7.15    1.76     -85.1
Newport-Inglewood, alt 2 Char        0.10     4.6   7.15    1.69     -98.2
San Joaquin Hills Char               5.22     5.4   6.97    0.23       4.3
Newport Inglewood Connected alt      0.10     4.1   7.50    1.61    -139.3
Newport Inglewood Connected alt      0.10     4.1   7.50    1.61    -139.3
Newport-Inglewood (Offshore) GR      0.01     5.1   6.71    2.52    -176.7
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San Joaquin Hills GR 5.85 5.5 6.72 0.32 5.6
#**********End of deaggregation corresponding to Campbell-Bozorgnia 2008 **********#

PSHA Deaggregation. %contributions. site: 150_Newport_Cen long: 117.875 W., lat: 33.612 N.
Vs30(m/s)= 260.0 (some WUS atten. models use Site Class not Vs30).
NSHMP 2007-08 See USGS OFR 2008-1128. dM=0.2 below
Return period: 2475 yrs. Exceedance PGA =0.6372 g. Weight * Computed_Rate_Ex 0.192E-03
#Pr[at least one eq with median motion>=PGA in 50 yrs]=0.00923
#This deaggregation corresponds to Chiou-Youngs 2008

DIST(KM)	MAG(MW)	ALL_EPS	EPSILON>2	1<EPS<2	0<EPS<1	-1<EPS<0	-2<EPS<-1	EPS<-2
6.4	5.05	0.744	0.586	0.158	0.000	0.000	0.000	0.000
12.8	5.05	0.138	0.138	0.000	0.000	0.000	0.000	0.000
6.5	5.20	1.418	0.976	0.441	0.000	0.000	0.000	0.000
13.0	5.20	0.345	0.345	0.000	0.000	0.000	0.000	0.000
6.5	5.40	1.276	0.740	0.536	0.000	0.000	0.000	0.000
13.2	5.40	0.415	0.415	0.000	0.000	0.000	0.000	0.000
6.6	5.60	1.118	0.567	0.551	0.000	0.000	0.000	0.000
13.4	5.60	0.456	0.456	0.000	0.000	0.000	0.000	0.000
6.6	5.80	0.954	0.437	0.517	0.000	0.000	0.000	0.000
13.6	5.80	0.471	0.471	0.000	0.000	0.000	0.000	0.000
7.3	6.02	1.239	0.605	0.634	0.000	0.000	0.000	0.000
14.2	5.99	0.417	0.412	0.005	0.000	0.000	0.000	0.000
22.7	6.01	0.034	0.034	0.000	0.000	0.000	0.000	0.000
7.6	6.20	1.567	0.705	0.862	0.000	0.000	0.000	0.000
14.4	6.20	0.484	0.452	0.032	0.000	0.000	0.000	0.000
23.4	6.21	0.048	0.048	0.000	0.000	0.000	0.000	0.000
7.7	6.40	1.436	0.532	0.901	0.002	0.000	0.000	0.000
14.3	6.40	0.547	0.482	0.065	0.000	0.000	0.000	0.000
23.9	6.41	0.066	0.066	0.000	0.000	0.000	0.000	0.000
5.3	6.61	6.575	0.576	2.693	3.027	0.280	0.000	0.000
12.9	6.60	0.229	0.162	0.067	0.000	0.000	0.000	0.000
24.3	6.61	0.024	0.024	0.000	0.000	0.000	0.000	0.000
5.2	6.79	8.039	0.641	3.225	3.657	0.516	0.000	0.000
13.1	6.79	0.229	0.156	0.073	0.000	0.000	0.000	0.000
24.6	6.79	0.033	0.033	0.000	0.000	0.000	0.000	0.000
5.1	6.96	9.328	0.645	3.461	4.372	0.843	0.007	0.000
13.0	6.98	0.142	0.086	0.055	0.002	0.000	0.000	0.000
24.3	7.03	0.069	0.066	0.003	0.000	0.000	0.000	0.000
5.1	7.15	4.932	0.368	1.911	2.117	0.518	0.018	0.000
12.5	7.16	0.035	0.013	0.019	0.002	0.000	0.000	0.000
23.5	7.20	0.129	0.106	0.022	0.000	0.000	0.000	0.000
35.1	7.18	0.045	0.045	0.000	0.000	0.000	0.000	0.000
4.4	7.39	2.267	0.167	0.874	1.038	0.184	0.003	0.000
23.5	7.35	0.177	0.120	0.057	0.000	0.000	0.000	0.000
35.9	7.36	0.036	0.036	0.000	0.000	0.000	0.000	0.000
4.1	7.55	1.351	0.128	0.653	0.534	0.036	0.000	0.000
23.5	7.56	0.111	0.072	0.040	0.000	0.000	0.000	0.000
35.3	7.57	0.040	0.040	0.000	0.000	0.000	0.000	0.000
4.1	7.71	0.198	0.015	0.079	0.091	0.014	0.000	0.000
23.5	7.74	0.272	0.149	0.123	0.000	0.000	0.000	0.000
35.2	7.76	0.079	0.077	0.002	0.000	0.000	0.000	0.000
23.5	7.91	0.037	0.019	0.018	0.000	0.000	0.000	0.000

Summary statistics for above PSHA PGA deaggregation, R=distance, e=epsilon:
Contribution from this GMPE(%): 47.7
Mean src-site R= 6.7 km; M= 6.63; eps0= 0.56. Mean calculated for all sources.
Modal src-site R= 5.1 km; M= 6.96; eps0= 0.12 from peak (R,M) bin
MODE R*= 5.2km; M*= 6.96; EPS.INTERVAL: 1 to 2 sigma % CONTRIB.= 4.372

Principal sources (faults, subduction, random seismicity having > 3% contribution)
Source Category: % contr. R(km) M epsilon0 (mean values).

California B-faults Char	20.50	5.6	7.06	0.29	
California B-faults GR	12.86	5.8	6.79	0.19	
CA Compr. crustal gridded	14.11	8.8	5.84	1.26	

Individual fault hazard details if its contribution to mean hazard > 2%:

Fault ID	% contr.	Rcd(km)	M	epsilon0	Site-to-src azimuth(d)
Newport-Inglewood (Offshore) Cha	6.15	4.1	6.88	0.69	-139.3
Newport-Inglewood, alt 1 Char	1.15	5.4	7.15	0.61	-85.1
Newport-Inglewood, alt 2 Char	1.32	4.6	7.15	0.52	-98.2
San Joaquin Hills Char	8.34	5.4	6.97	-0.26	4.3
Newport Inglewood Connected alt	1.37	4.1	7.50	0.35	-139.3
Newport Inglewood Connected alt	1.37	4.1	7.50	0.35	-139.3
Newport-Inglewood (Offshore) GR	1.31	6.9	6.70	1.00	-176.7
San Joaquin Hills GR	8.92	5.5	6.73	-0.11	5.6

#*********End of deaggregation corresponding to Chiou-Youngs 2008 *********#

********** Southern California **********

APPENDIX E

APPENDIX E

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

1.0 General

1.1 Intent: These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 Geotechnical Consultant: Prior to commencement of work, the owner shall employ a geotechnical consultant. The geotechnical consultant shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed

immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

2.2 Processing: Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Overexcavation: In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching: Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas: All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General: Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize: Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 12 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import: If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers: Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning: Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557-91).

4.3 Compaction of Fill: After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557-91). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes: In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557-91.

4.5 Compaction Testing: Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing: Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations: The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 Bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum 90 percent of maximum from 1 foot above the top of the conduit to the surface, except in traveled ways (see Section 7.6 below).

7.3 Jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

7.4 Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.5 Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

7.6 Trench backfill in the upper foot measured from finish grade within existing or future traveled way, shoulder, and other paved areas (or areas to receive pavement) should be placed to a minimum 95 percent relative compaction.

C&V CONSULTING, INC.
CIVIL ENGINEERING
LAND PLANNING & SURVEYING

150 NEWPORT CENTER DRIVE
TENTATIVE TRACT MAP № 17915
ASSESSMENT OF SEWER CAPACITY AVAILABILITY
FOR PROPOSED RESIDENTIAL DEVELOPMENT

SEPTEMBER 2, 2015

INTRODUCTION

The subject site is currently occupied by a single story car wash facility on a 1.26 acre lot. The proposed site will consist of 49 condominium units within a seven story building. The proposed site is anticipated to result in a decreased demand on the local sanitary sewer system when compared to the existing car wash use. The proposed site will utilize existing public utilities in place, therefore this assessment has been prepared to determine whether there is adequate capacity within the existing infrastructure in the vicinity to serve the proposed residential development.

EXISTING SITE CONDITIONS

The site is contained within an area of existing development bound by Anacapa Dr., Newport Center Dr., and a low-rise commercial office space development. The site sanitary sewer is served by an 8" lateral which connects to a 15" main on Newport Center Dr. flowing at 3.28% and a 6" lateral which connects to an 8" main on Anacapa Dr. flowing at 3.80%. Using the Orange County Sanitation District flow factors for office/commercial (2,262 GPD/acre) it was estimated that the existing flow from the site is 2,850 GPD, however this calculated flow is much lower than the actual conditions because the existing car wash has a higher flow factor than the average office or commercial building. Using the existing car wash's water utility bills for the past six months the water usage was found to be 12,395 GPD (see "Existing Carwash Water Demand Summary" attached). To keep results on the conservative side it is then assumed that only 90% of the water used would be discharged into the sewer which results in:

12,395 GPD x 90% = 11,156 GPD of existing sanitary sewer demand

The total flow is then assumed to be evenly split between the sanitary sewer systems on both streets resulting in:

5,578 GDP of existing sanitary sewer demand on Anacapa Dr.

5,578 GDP of existing sanitary sewer demand on Newport Center Dr.

PROPOSED IMPROVEMENTS

There is one 6" sanitary sewer lateral connection proposed on Anacapa Dr. The two existing 8" and 6" laterals will remain and serve the proposed residential building on Newport Center Dr. and Anacapa Dr. respectively. Using the Orange County Sanitation District flow factors for high density residential it was found that the proposed flow from the site is:

7,516 GPD/AC x 1.26 AC = 9,470 GPD of proposed sanitary sewer demand

The total flow is then assumed to be evenly split between the sanitary sewer systems on both streets resulting in:

4,735 GPD of proposed sanitary sewer demand on Anacapa Dr.

4,735 GPD of proposed sanitary sewer demand on Newport Center Dr.

CAPACITY ASSESSMENT

An analysis of existing conditions for both mains on Newport Center Dr. and Anacapa Dr was done using flow factors provided by the Orange County Sanitary District for proposed conditions and 90% of the total known water usage from existing conditions. The tributary areas upstream of the project site were calculated using the flow factors and found to be 229,449 GPD of sanitary sewer flow on Newport Center Dr. and 2,624 GPD of sanitary sewer flow on Anacapa Dr. The proposed total flow is assumed to be split between the two mains, the respective halves of the proposed flow were then added to the existing flow and the mains were compared against the existing conditions to verify that the flow would not adversely impact each main's capacity.

15" main on Newport Center Dr.

The upstream tributary areas and existing site results in a flow of 235,027 GPD or 0.363 CFS which calculates to be 1.9" of depth or 12.8% of the depth to diameter total main capacity.

The upstream tributary areas and proposed site results in a flow of 234,184 GPD or 0.362 CFS which calculates to be 1.8" of depth or 12.0% of the depth to diameter total main capacity.

Therefore it was found that the proposed site would reduce the total flow depth by 0.8% for the main located on Newport Center Dr.

8" main on Anacapa Dr.

The upstream tributary areas and existing site results in a flow of 8,202 GPD or 0.013 CFS which calculates to be 0.48" of depth or 6% of the depth to diameter total main capacity.

The upstream tributary areas and proposed site results in a flow of 7,359 GPD or 0.011 CFS which calculates to be 0.42" of depth or 5.3% of the depth to diameter total main capacity.

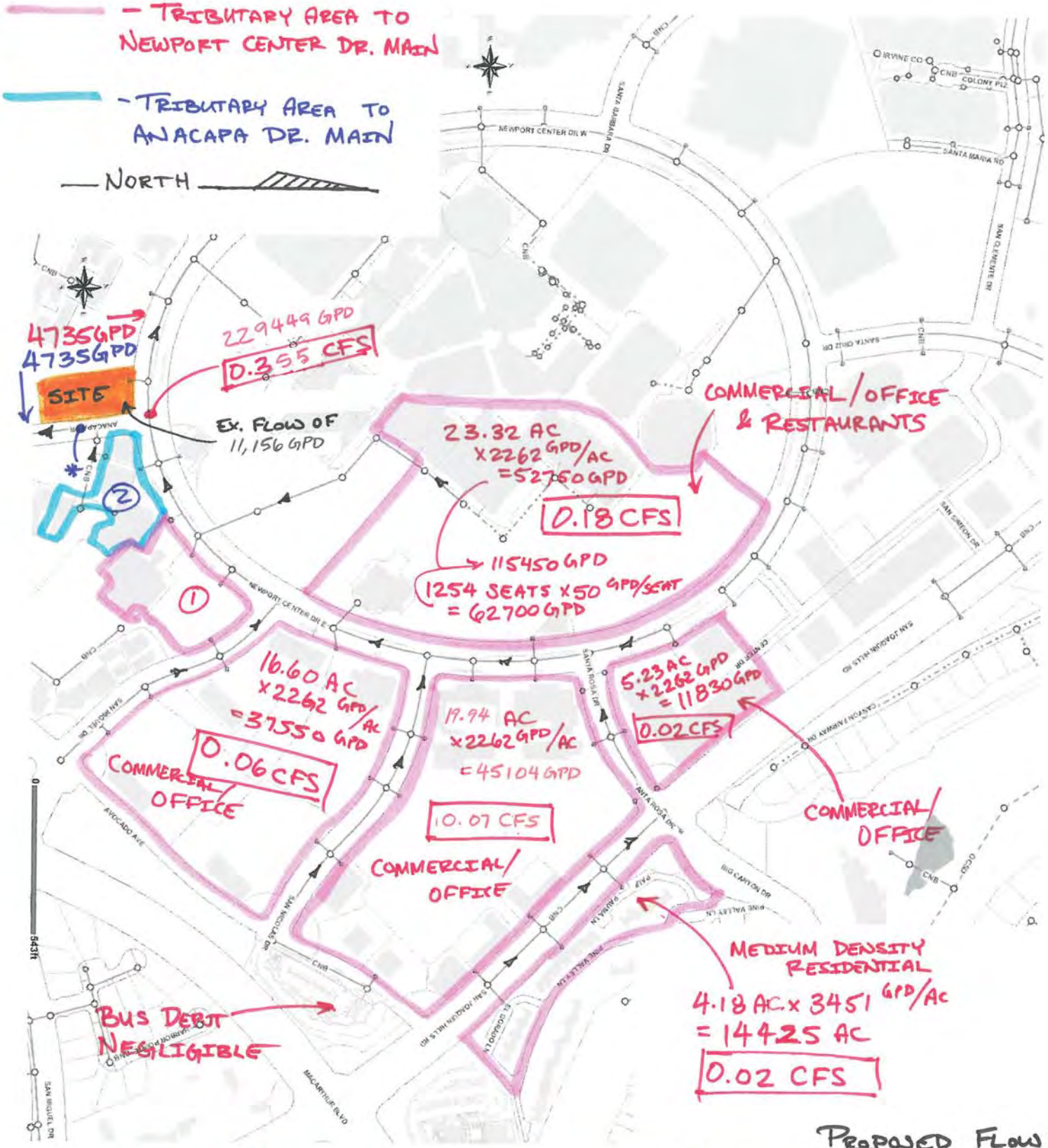
Therefore it was found that the proposed site would reduce the total flow depth by 0.7% for the main located on Newport Center Dr.

CONCLUSION

The project demand for the proposed residential units will have no adverse impact on any downstream facilities because of the expected decrease in sewer demand from the proposed site. Therefore it can be concluded that the existing facilities that will serve this project are more than adequate for the proposed development.

_____ _____

DANE P. MCDOUGALL, P.E. *DATE*
C&V Consulting, Inc.



① COMMERCIAL/OFFICE
2.25 AC x 2262 GPD/AC
= 5090 GPD
0.01 CFS

② COMMERCIAL/OFFICE
1.16 AC x 2262 GPD/AC
= 2624 GPD
0.01 CFS * 0.004 CFS

PROPOSED FLOW:
HIGH DENSITY RES.
1.26 AC x 7516 GPD/AC
= 9470 GPD
0.01 CFS

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Sep 2 2015

Newport Center Dr - 15in SS Main - Existing Flow

Circular

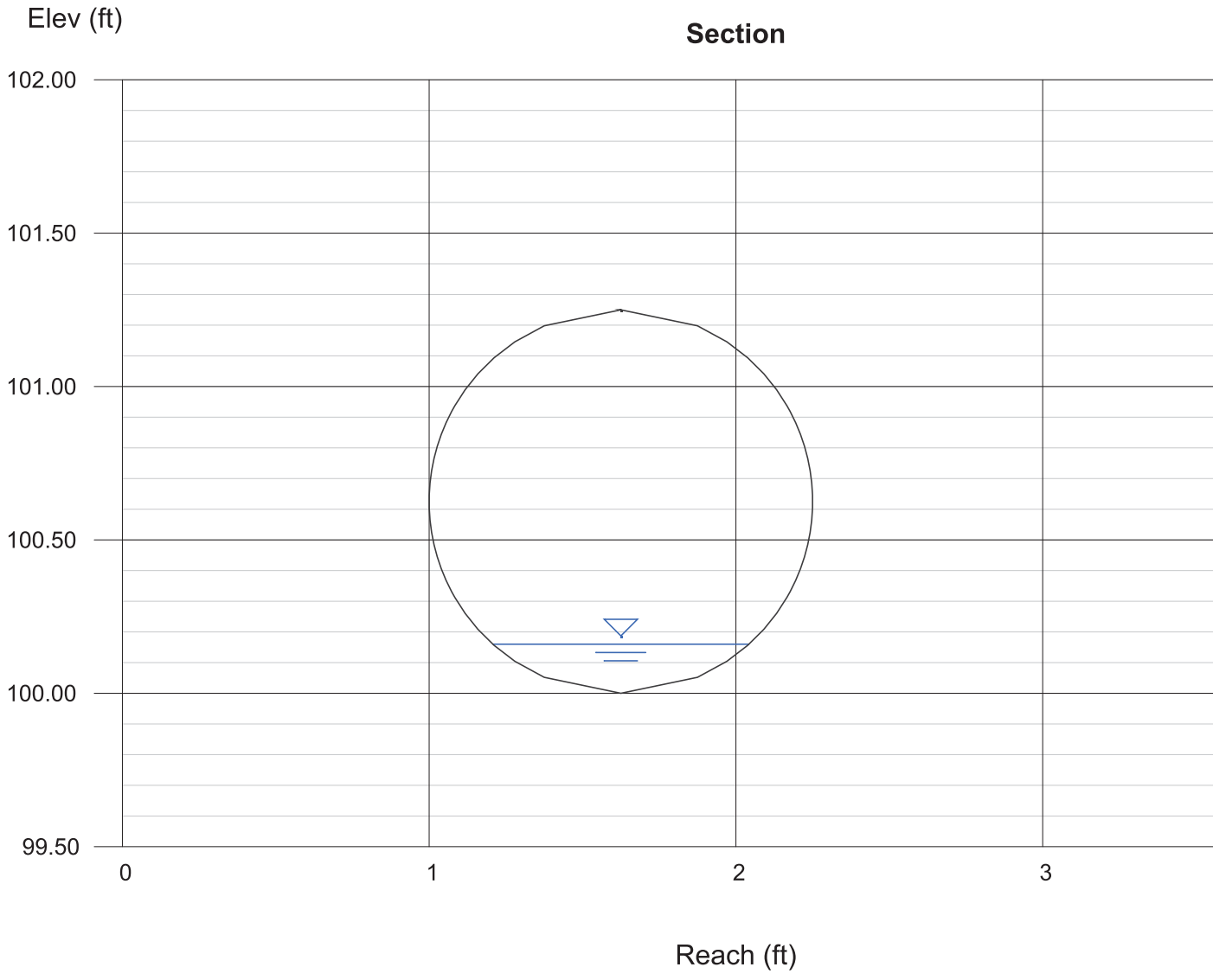
Diameter (ft)	= 1.25
Invert Elev (ft)	= 100.00
Slope (%)	= 3.28
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.36

Highlighted

Depth (ft)	= 0.16
Q (cfs)	= 0.363
Area (sqft)	= 0.09
Velocity (ft/s)	= 3.91
Wetted Perim (ft)	= 0.92
Crit Depth, Yc (ft)	= 0.24
Top Width (ft)	= 0.84
EGL (ft)	= 0.40



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Sep 2 2015

Newport Center Dr - 15in SS Main - Proposed Flow

Circular

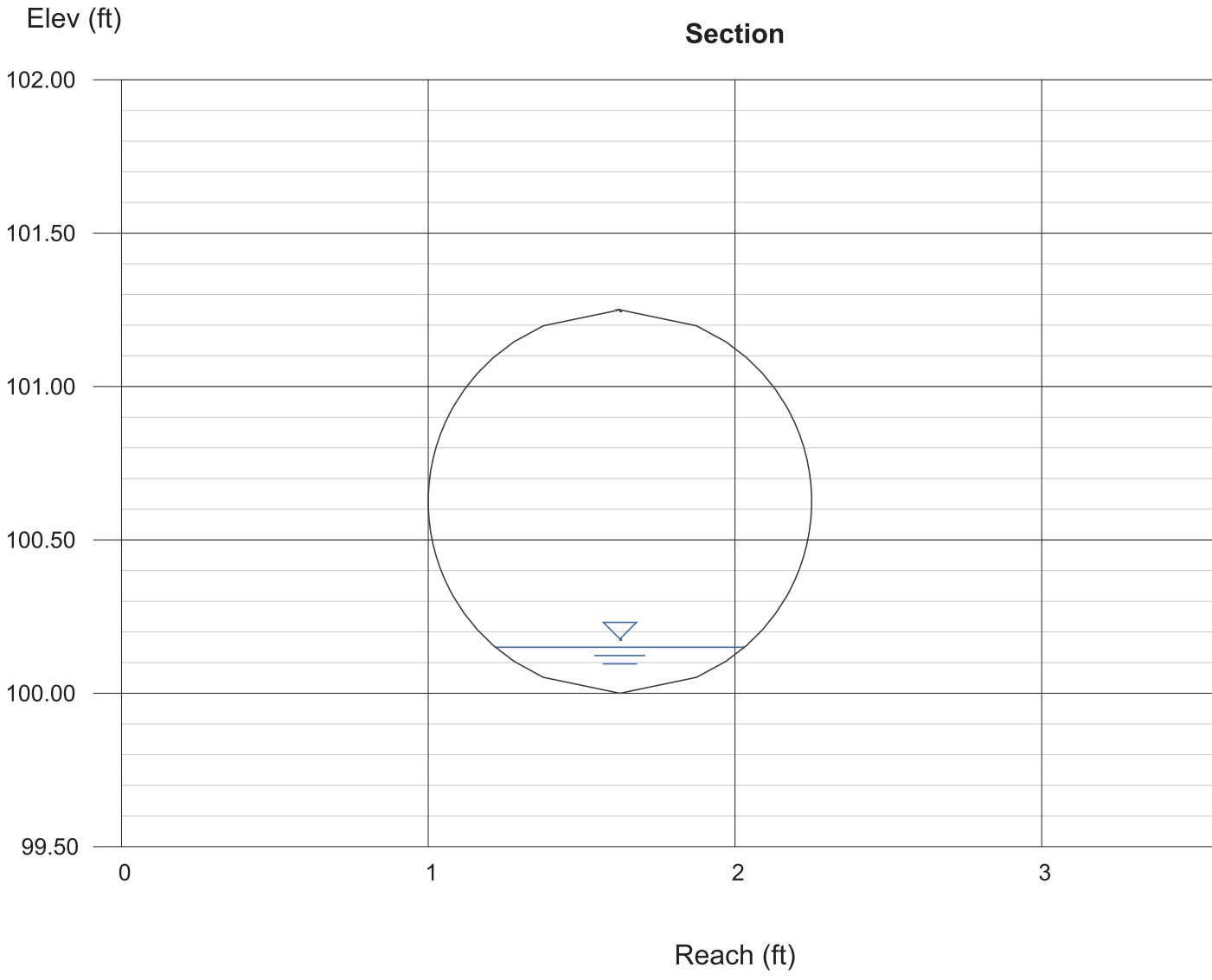
Diameter (ft)	= 1.25
Invert Elev (ft)	= 100.00
Slope (%)	= 3.28
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.36

Highlighted

Depth (ft)	= 0.15
Q (cfs)	= 0.362
Area (sqft)	= 0.08
Velocity (ft/s)	= 4.30
Wetted Perim (ft)	= 0.89
Crit Depth, Yc (ft)	= 0.24
Top Width (ft)	= 0.81
EGL (ft)	= 0.44



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Sep 2 2015

Anacapa Dr - 8in SS - Existing Flow

Circular

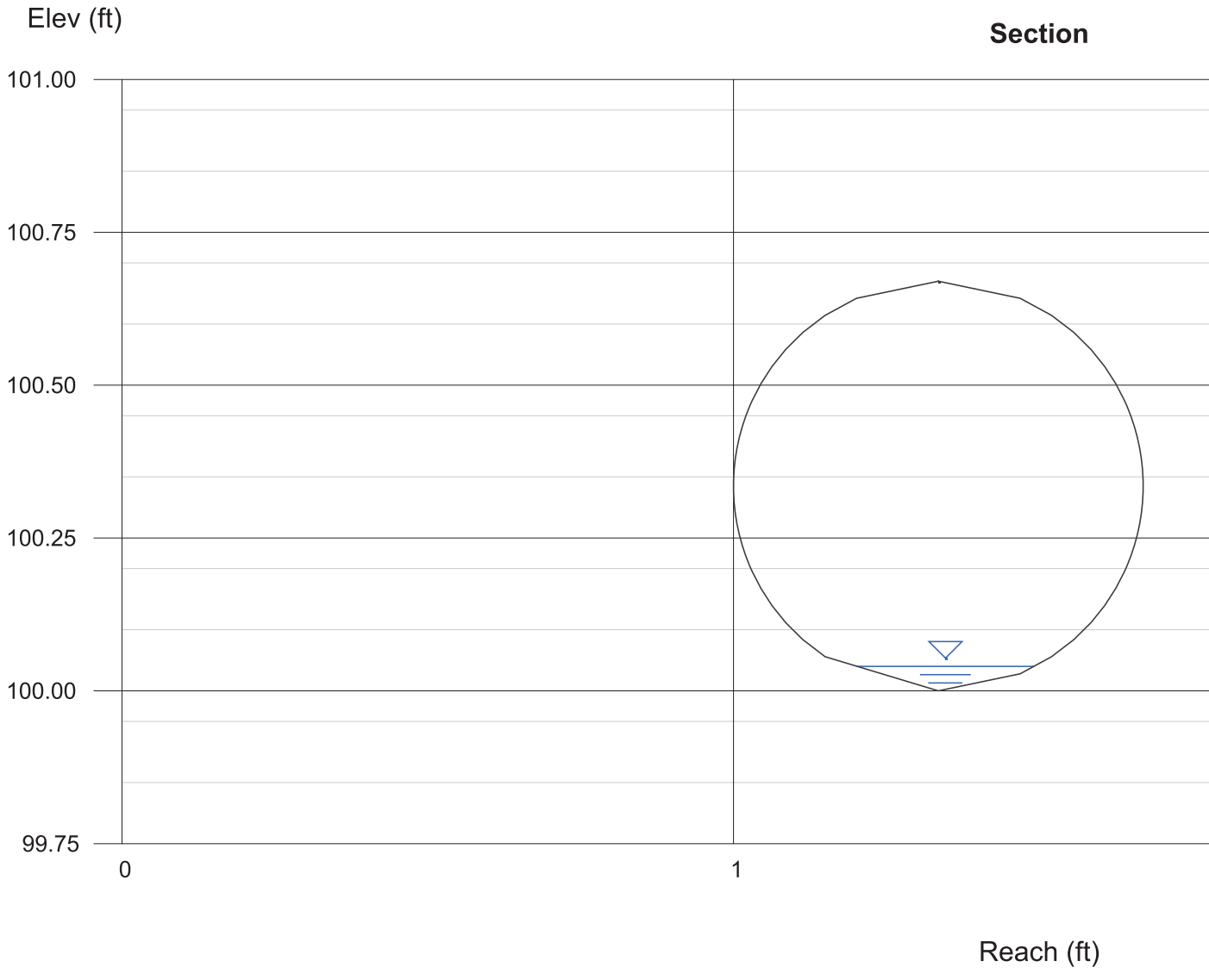
Diameter (ft)	= 0.67
Invert Elev (ft)	= 100.00
Slope (%)	= 3.80
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.01

Highlighted

Depth (ft)	= 0.04
Q (cfs)	= 0.013
Area (sqft)	= 0.01
Velocity (ft/s)	= 1.50
Wetted Perim (ft)	= 0.33
Crit Depth, Yc (ft)	= 0.06
Top Width (ft)	= 0.32
EGL (ft)	= 0.08



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Sep 2 2015

Anacapa Dr - 8in SS - Proposed Flow

Circular

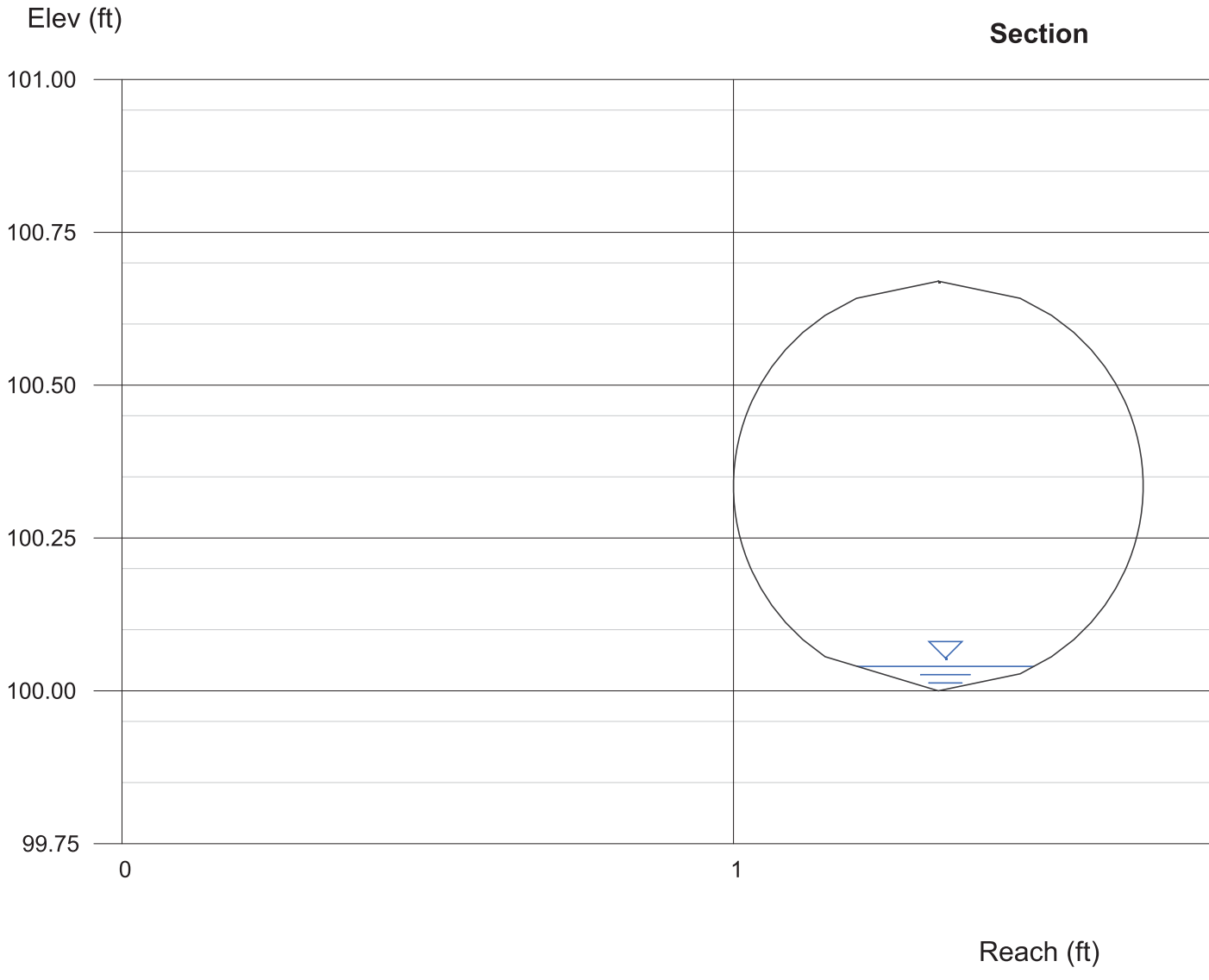
Diameter (ft)	= 0.67
Invert Elev (ft)	= 100.00
Slope (%)	= 3.80
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.01

Highlighted

Depth (ft)	= 0.04
Q (cfs)	= 0.010
Area (sqft)	= 0.01
Velocity (ft/s)	= 1.16
Wetted Perim (ft)	= 0.33
Crit Depth, Yc (ft)	= 0.05
Top Width (ft)	= 0.32
EGL (ft)	= 0.06



150 Newport Center Drive

Existing Carwash Water Demand Summary

Billing Start Date	Billing End Date	Billed Days	Total HCF Read	Total Gal Calcualted	Total GPD Calculated
7/16/2015	8/18/2015	33	516	385968	11696.00
6/16/2015	7/16/2015	30	496	371008	12366.93
5/19/2015	6/16/2015	28	360	269280	9617.14
4/15/2015	5/19/2015	34	606	453288	13332.00
3/17/2015	4/15/2015	29	601	449548	15501.66
2/18/2015	3/17/2015	27	428	320144	11857.19
		Six Month Average GPD =			**12395.15**

Wastewater Flow Estimates for Development Planning

- 727 gpd/acre for estate density residential (0-3 d.u. /acre);
- 1488 gpd/acre for low density residential (4-7d.u. /acre);
- 3451 gpd/acre for medium density residential (8-16 d.u./acre);
- 5474 gpd/acre for medium-high density residential (17-25 d.u./acre);
- 7516 gpd/acre for high density residential (26-35 d.u./acre);
- 2262 gpd/acre for commercial/office;
- 3167 gpd/acre for industrial;
- 2715 gpd/acre for institutional;
- 5429 gpd/acre for high intensity industrial/commercial;
- 150 gpd/room for hotels and motels;
- 50 gal/seat for restaurants, and
- 129 gpd/acre for recreation and open space usage.

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150 NEWPORT CENTER DRIVE
TENTATIVE TRACT MAP № 17915
ASSESSMENT OF WATER AVAILABILITY
FOR PROPOSED RESIDENTIAL DEVELOPMENT

AUGUST 31, 2015

INTRODUCTION

The subject site is currently occupied by a single story car wash facility on a 1.26 acre lot located on the corner of Anacapa Dr. and Newport Center Dr. The proposed site will consist of 49 condominium units within a seven story building. The proposed site is anticipated to result in a decrease in local water demand and utilizes an existing 12" water main on Newport Center Dr. for service. This study will determine the adequacy of the existing facilities to serve the proposed residential development. It is not meant to be a Water Supply Assessment under California SB610/SB221.

EXISTING CONDITIONS ANALYSIS

The existing car wash is currently served by a 2" domestic water service which connects to a 12" main located on Newport Center Dr. The existing site domestic water demand was calculated from six months of water bills for the existing meter servicing the car wash. The average gallon per day usage was found to be:

12,395 GPD or 8.61 GPM (See attached table for water demand summary).

To find a peak demand the Newport Beach "Design Criteria Manual" uses a factor of 2.13 for Newport Center, however a factor of 3.00 was used for safety:

8.61 GPM x 3.00 = 25.83 GPM of domestic water at peak demand

For this analysis existing flow and pressure at the site were determined from a Fire Hydrant Flow Test conducted by the City of Newport Beach Utilities Department on 2/25/2015. The findings of this flow test were then used to create a model of the domestic water pipe network in the immediate vicinity of the site using WaterCAD v8i by Bentley Systems, Inc. The existing surrounding development's water demands were estimated using the Orange County Sanitation District flow factors multiplied by a factor of 110%

and a factor of 3.00 to determine peak flow as explained above. It was determined that a portion of Fashion Island serviced by the 12" main in Newport Center Dr. would have a peak demand of 90 GPM, while a portion of the 200 block serviced by the 12" main on Anacapa Dr. would have a peak demand of 33 GPM.

PROPOSED IMPROVEMENTS ANALYSIS

The proposed residential development will be serviced by a proposed 6" domestic water service, 2" irrigation service, and 8" fire service connection to the 12" main on Newport Center Dr. Proposed site domestic water demand was calculated assuming that 110% of the calculated effluent from the Orange County Sanitation District flow factors would make up the total water demand for the site. For high density residential the following was calculated as the average demand:

1.26 Acres x 7,516 GPD/acre = 9,470 GPD x 110% = 10,417 GPD or 7.23 GPM

To find the peak demand the Newport Beach "Design Criteria Manual" uses a factor of 2.13 for Newport Center, however a factor of 3.00 was used for safety:

7.32 GPM x 3.00 = 21.96 GPM of domestic water at peak demand

CAPACITY ASSESMENT AND CONCLUSION

An analysis of the existing conditions for both domestic water mains on Newport Center Dr. and Anacapa Dr. resulted in a decrease in water demand by approximately 4 GPM at peak hours. Therefore it has been determined the 12" domestic water main on Newport Center Dr. is more than adequate to handle the peak demand of the proposed residential development as the existing facilities can adequately handle the current demand.

An analysis of the average water demand estimates that the proposed residential development will demand 10,417 GPD versus the existing demand of 12,395 GPD. This will lead to an estimated 16% net decrease in total domestic water demand and help the City of Newport Beach municipal water services meet future conservation goals set forth by the State of California.

DANE P. MCDOUGALL, P.E. *DATE*

8/31/15

C&V Consulting, Inc.

150 Newport Center Drive

Existing Carwash Water Demand Summary

Billing Start Date	Billing End Date	Billed Days	Total HCF Read	Total Gal Calcualted	Total GPD Calculated
7/16/2015	8/18/2015	33	516	385968	11696.00
6/16/2015	7/16/2015	30	496	371008	12366.93
5/19/2015	6/16/2015	28	360	269280	9617.14
4/15/2015	5/19/2015	34	606	453288	13332.00
3/17/2015	4/15/2015	29	601	449548	15501.66
2/18/2015	3/17/2015	27	428	320144	11857.19
		Six Month Average GPD =			**12395.15**

CITY OF NEWPORT BEACH
UTILITIES DEPARTMENT

FIRE HYDRANT FLOW TEST

AMOUNT PAID: $343.00 DATE: 02/25/2015
CHECK NO: N/A TIME: 10:00 AM
TEST NO: N/A WEATHER: CLEAR

PROJECT:
PROJECT LOCATION: ANACAPA DRIVE AND NEWPORT CENTER DRIVE
TEST CONDUCTED FOR: FUSCOE ENGINEERING
TEST PERFORMED BY: BULLMAN, AUGER
TEST WITNESSED BY:

FIELD OBSERVATIONS AND FLOW DATA

STATIC HYDRANT # : 1288 LOCATION: 143 NEWPORT CENTER DRIVE
F/H MANUFACTURER: JONES NUMBER & SIZE OF OUTLETS: 2-2.5" 1-4"
STATIC PRESSURE, (Ps , psi), PRE-FLOW: 137
RESIDUAL PRESSURE, (Pr , psi) FLOWING: 114
FLOW HYDRANT # : 1292 LOCATION: 210 NEWPORT CENTER DRIVE
F/H MANUFACTURER: JONES NUMBER & SIZE OF OUTLETS: 2-2.5" 1-4 "
STATIC PRESSURE, PRE-FLOW (INFO ONLY, NOT FOR TEST CALCS) :
F/H OUTLET SIZE (2.5 or 4.0): 2.5 (d, inches)
FLOW LOSS COEFFICIENT - TUBE C=1.0 / BUTT C=0.9 0.9
PITOT GAUGE READING (p, psi): 94

OBSERVED FLOW: THE OBSERVED FLOW FROM A HYDRANT OUTLET IS CALCULATED FROM THE FOLLOWING EQUATION:

$$Q_s = 29.83\left(Cd^2\right)\sqrt[2]{p}$$

WHERE; Q IS THE OBSERVED FLOW IN GPM; d IS THE OUTLET DIAMETER IN INCHES; p IS THE PITOT GAUGE PRESSURE IN PSI; AND C IS THE FLOW LOSS COEFFICIENT (C = 1.0 FOR FLOW TUBES AND C = 0.9 FOR BUTT FLOW READINGS).

OBSERVED FLOW (Qs, gpm): 1627 GPM

DISCHARGE CALCS: THE DISCHARGE FOR A GIVEN FIRE HYDRANT CAN BE DETERMINED FROM THE FOLLOWING EQUATION USING THE INITIAL (STATIC) WATER PRESSURE AND THE RESIDUAL (DYNAMIC) WATER PRESSURE:

$$Q_r = Q_s\left(\frac{P_s - 20}{P_s - P_r}\right)^{0.54}$$

WHERE; Q (STATIC OR RESIDUAL) IS THE FLOW IN GPM; AND P (STATIC OR RESIDUAL) IS THE PRESSURE IN PSI. NOTE: A 10 PSI DROP IS REQUIRED FOR VALID TEST!

CALCULATED FLOW AT 20 psi (Qr, gpm): 3916 GPM

Water Analysis for Existing Conditions

FlexTable: Pipe Table

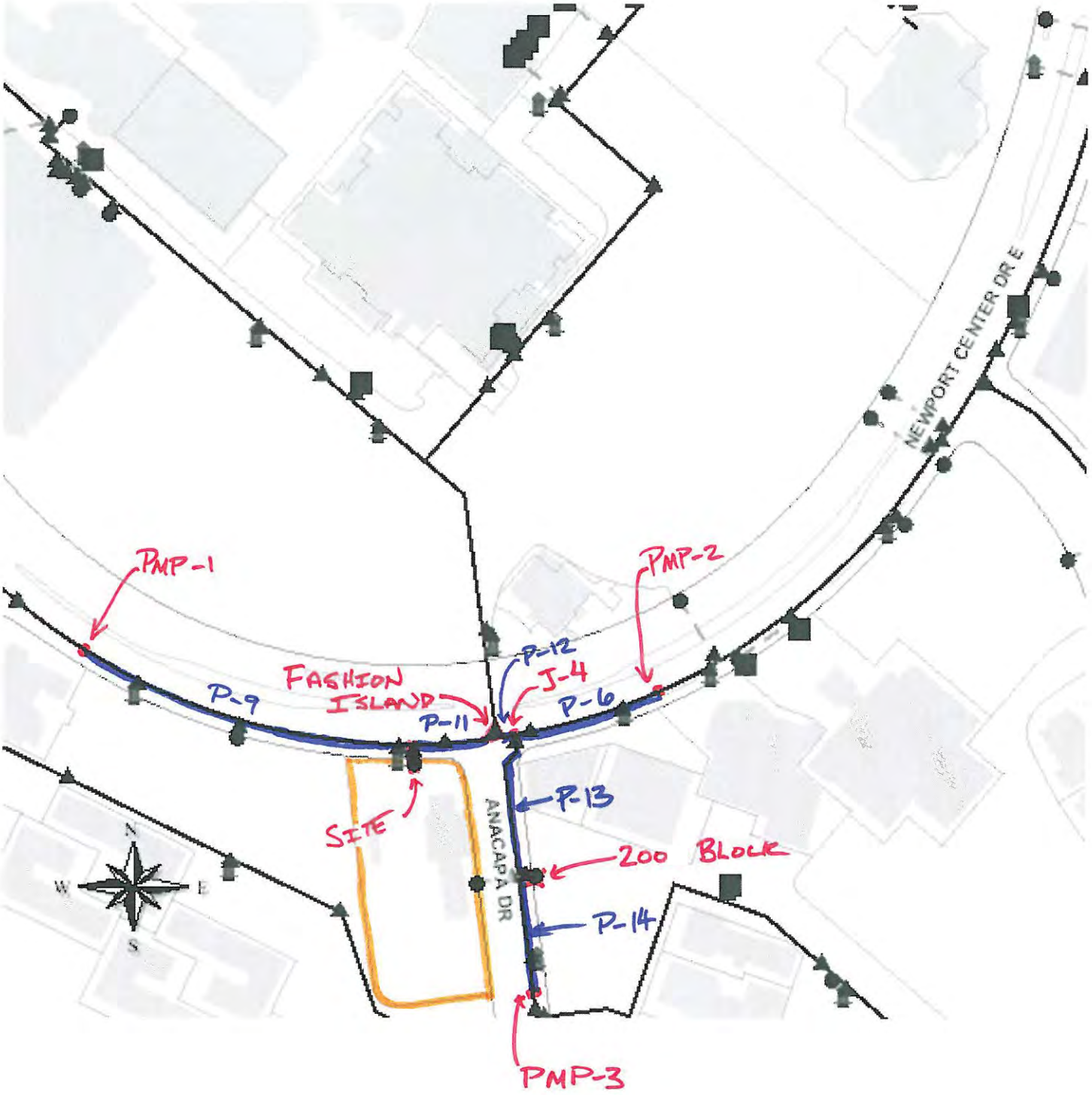
Label	Length (Scaled) (ft)	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-6	250	12.0	Asbestos Cement	140.0	130	0.37	0.000
P-9	516	12.0	Asbestos Cement	140.0	0	0.00	0.000
P-11	151	12.0	Asbestos Cement	140.0	7	0.02	0.000
P-12	29	12.0	Asbestos Cement	140.0	97	0.27	0.000
P-13	209	12.0	Asbestos Cement	140.0	33	0.09	0.000
P-14	168	12.0	Asbestos Cement	140.0	0	0.00	0.000

FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-4	175.00	0	503.00	142
SITE	170.00	7	502.99	144
FASHION ISLAND	174.00	90	502.99	142
2000 BLOCK	170.00	33	502.99	144

FlexTable: Pump Table

Label	Elevation (ft)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	165.00	165.00	481.50	0	316.50
PMP-2	187.00	187.00	503.01	130	316.01
PMP-3	164.00	164.00	480.50	0	316.50


NEWPORT CENTER DR E
PMP-1
PMP-2
P-9
FASHION ISLAND
P-11
P-12
J-4
P-6
SITE
ANACAPA DR
P-13
200 BLOCK
P-14
PMP-3
N
W
E
S

Wastewater Flow Estimates for Development Planning

- 727 gpd/acre for estate density residential (0-3 d.u. /acre);
- 1488 gpd/acre for low density residential (4-7d.u. /acre);
- 3451 gpd/acre for medium density residential (8-16 d.u./acre);
- 5474 gpd/acre for medium-high density residential (17-25 d.u./acre);
- 7516 gpd/acre for high density residential (26-35 d.u./acre);
- 2262 gpd/acre for commercial/office;
- 3167 gpd/acre for industrial;
- 2715 gpd/acre for institutional;
- 5429 gpd/acre for high intensity industrial/commercial;
- 150 gpd/room for hotels and motels;
- 50 gal/seat for restaurants, and
- 129 gpd/acre for recreation and open space usage.

Notice of Preparation and Scoping Meeting for the 150 Newport Center Environmental Impact Report

DATE: January 12, 2016

TO: Reviewing Agencies and Other Interested Parties

FROM: City of Newport Beach, Community Development Department, 100 Civic Center Drive, Newport Beach, CA 92660

PROJECT TITLE/SUBJECT: 150 Newport Center Residential Condominium Project- Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping Meeting

PROJECT APPLICANT: Newport Center Anacapa Associates, LLC

NOTICE OF PREPARATION REVIEW PERIOD: January 12, 2016 through February 11, 2016 (30 days)

SCOPING MEETING: January 27, 2016

The purpose of this Notice of Preparation (NOP) is to notify potential Responsible Agencies (Agencies) that the Lead Agency, the City of Newport Beach, will prepare an Environmental Impact Report (EIR) for the proposed 150 Newport Center (Project) and to solicit comments and suggestions regarding (1) the scope and content of the EIR and (2) the environmental issues and alternatives to be addressed in the EIR (California Environmental Quality Act [CEQA] Guidelines §15082). This NOP also provides notice to interested parties, organizations, and individuals of the preparation of the EIR and requests comments on the scope and contents of the environmental document.

PROJECT LOCATION:

The site at 150 Newport Center Drive is 1.26 acres and is located approximately 1.4 miles east of Newport Bay. The Project site is located within an area generally bounded by Newport Center Drive to the north and Anacapa Drive to the east. Local access to the site is provided via Newport Center Drive to the north and west, Civic Center Drive to the south, and Anacapa Drive, Avocado Avenue, and MacArthur Boulevard to the east. Regional access to the site is provided via State Route 1 (Pacific Coast Highway), which is located 0.31 miles to the south and California State Route 73, which is located approximately 2 miles northeast of the Project site. The Project site is illustrated on the map below.

PROJECT DESCRIPTION:

The proposed 150 Newport Center project consists of the demolition of an existing 8,500-square-foot car-wash, convenience market, and gas station to accommodate the development of a 7-story 49-unit residential condominium building with three levels of subterranean parking.

Development of the proposed project would require the following approvals from the City of Newport Beach:

1. **General Plan Amendment** - to change the land use category from CO-R (Regional Commercial Office) to RM (Multi-Unit Residential) and establish an anomaly (Table LU2) designation for 49 dwelling units.
2. **Zoning Code Amendment** - to change the Zoning District designation from OR (Office Regional Commercial) to PC (Planned Community District) over the entire site.

3. **Planned Community Development Plan** - to establish a planned community development plan (PC) over the entire project site that includes development and design standards for 49 residential condominium units. In order to establish a planned community development plan, a waiver of the minimum site area of 10 acres of developed land is necessary. The applicant also requests an increase in the height limit to 75 feet 6 inches with mechanical appurtenances up to 83 feet 6 inches.
4. **Site Development Review** - to allow the construction of 49 multi-family dwelling units.
5. **Tentative Tract Map** -to establish a 49-unit residential condominium tract on a 1.3 acre site.
6. **Development Agreement** - review of a proposed development agreement that would provide public benefits should the project be approved.
7. **Environmental Impact Report (EIR)** – to address reasonably foreseeable environmental impacts resulting from the legislative and project specific discretionary approvals, an EIR has been prepared to address the California Environmental Quality Act (CEQA).

A detailed project description can be reviewed in the project Initial Study, which is available in hard copy form at the City of Newport Beach Planning Division Counter and at several public libraries, and online at the City's website, as described below. Additionally, updated project information is also available via the project webpage:
http://www.newportbeachca.gov/trending/projects-issues/newport-center-villas

NOTICE OF PREPARATION AND INITIAL STUDY:
The City has prepared an Initial Study that provides a detailed project description and evaluation of the potential environmental effects of the proposed project. The Notice of Preparation and accompanying Initial Study can also be accessed online at: http://www.newportbeachca.gov/cegadocuments. Copies are also available at the City of Newport Beach Planning Division 100 Civic Center Drive, Newport Beach, California, 92660, and at the following locations:

Newport Beach Public Library
Central Library
1000 Avocado Avenue
Newport Beach, CA 92660

Newport Beach Public Library
Mariners Branch
1300 Irvine Avenue
Newport Beach, CA 92660

Newport Beach Public Library
Balboa Branch
100 East Balboa Boulevard
Newport Beach, CA 92660

Newport Beach Public Library
Corona del Mar Branch
420 Marigold Ave.
Corona del Mar, CA 92625

The City of Newport Beach requests your careful review and consideration of this notice, and it invites any and all input and comments from interested Agencies, persons, and organizations regarding the preparation of the EIR. Pursuant to CEQA §21080.4, Agencies must submit any comments in response to this notice no later than 30 days beginning January 12, 2016, and ending the close of business on February 11, 2016. All comments or other responses to this notice should be submitted in writing to:

Makana Nova, Associate Planner
City of Newport Beach, Community Development Department
100 Civic Center Drive
Newport Beach, California 92660
mnova@newportbeachca.gov
949.644.3249

NOTICE OF PUBLIC SCOPING MEETING:
The City will conduct a public scoping meeting in conjunction with this Notice of Preparation in order to present the Project and the EIR process and to receive public comments and suggestions regarding the scope and content of the EIR. The meeting will be held on January 27, 2016, at 6:00 P.M. at the Civic Center Community Room, 100 Civic Center Drive, Newport Beach, CA 92660.

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: 150 Newport Center

Lead Agency: City of Newport Beach — Contact Person: Makana Nova, Associate Planner
Mailing Address: 100 Civic Center Drive — Phone: 949-644-3249
City: Newport Beach, CA — Zip: 92660 — County: Orange

Project Location: County: Orange — City/Nearest Community: Newport Beach
Cross Streets: Newport Center Drive and Anacapa Drive — Zip Code: 92660
Longitude/Latitude (degrees, minutes and seconds): 33 ° 40 ′ 10.■ ″ N / -117 ° 41 ′ 2.5■ ″ W Total Acres: 1.3
Assessor's Parcel No.: 442-231-12 — Section: 36 — Twp.: 6S — Range: 10W — Base: SB
Within 2 Miles: State Hwy #: SR-1 and SR-73 — Waterways: Newport Bay
Airports: — Railways: — Schools: Harbor View Elementa■

Document Type:

CEQA: ☒ NOP ☐ Draft EIR — NEPA: ☐ NOI — Other: ☐ Joint Document
☐ Early Cons ☐ Supplement/Subsequent EIR ☐ EA ☐ Final Document
☐ Neg Dec (Prior SCH No.) ☐ Draft EIS ☐ Other:
☐ Mit Neg Dec Other: ☐ FONSI

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☒ Rezone ☐ Annexation
☒ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☒ Site Plan ☒ Land Division (Subdivision, etc.) ☒ Other: Dev. Agreemer■

Development Type:

☒ Residential: Units 49 Acres 1.3
☐ Office: Sq.ft. ____ Acres ____ Employees ____ ☐ Transportation: Type ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____ ☐ Mining: Mineral ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____ ☐ Power: Type ____ MW ____
☐ Educational: ____ ☐ Waste Treatment: Type ____ MGD ____
☐ Recreational: ____ ☐ Hazardous Waste: Type ____
☐ Water Facilities: Type ____ MGD ____ ☐ Other: ____

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☐ Fiscal ☐ Recreation/Parks ☐ Vegetation
☐ Agricultural Land ☐ Flood Plain/Flooding ☐ Schools/Universities ☐ Water Quality
☒ Air Quality ☐ Forest Land/Fire Hazard ☐ Septic Systems ☐ Water Supply/Groundwater
☒ Archeological/Historical ☒ Geologic/Seismic ☐ Sewer Capacity ☐ Wetland/Riparian
☒ Biological Resources ☐ Minerals ☐ Soil Erosion/Compaction/Grading ☒ Growth Inducement
☐ Coastal Zone ☒ Noise ☐ Solid Waste ☒ Land Use
☐ Drainage/Absorption ☐ Population/Housing Balance ☒ Toxic/Hazardous ☒ Cumulative Effects
☐ Economic/Jobs ☐ Public Services/Facilities ☒ Traffic/Circulation ☐ Other:

Present Land Use/Zoning/General Plan Designation:

Car-wash with ancillary convenience market and gas station/OR (Office and Reg. Commercial)/CO-R (Reg. Commercial Office)

Project Description: *(please use a separate page if necessary)*

The proposed project consists of the demolition of an existing 8,500-square-foot car-wash, convenience market, and gas station to accommodate the development of a 7-story 49-unit residential condominium building with three levels of subterranean parking.

Refer to full project description, attached.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

_____	Air Resources Board	_____	Office of Historic Preservation
_____	Boating & Waterways, Department of	_____	Office of Public School Construction
_____	California Emergency Management Agency	_____	Parks & Recreation, Department of
_____	California Highway Patrol	_____	Pesticide Regulation, Department of
_____	Caltrans District # _____	_____	Public Utilities Commission
_____	Caltrans Division of Aeronautics	S	Regional WQCB # _____
_____	Caltrans Planning	_____	Resources Agency
_____	Central Valley Flood Protection Board	_____	Resources Recycling and Recovery, Department of
_____	Coachella Valley Mtns. Conservancy	_____	S.F. Bay Conservation & Development Comm.
_____	Coastal Commission	_____	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
_____	Colorado River Board	_____	San Joaquin River Conservancy
_____	Conservation, Department of	_____	Santa Monica Mtns. Conservancy
_____	Corrections, Department of	_____	State Lands Commission
_____	Delta Protection Commission	_____	SWRCB: Clean Water Grants
_____	Education, Department of	_____	SWRCB: Water Quality
_____	Energy Commission	_____	SWRCB: Water Rights
_____	Fish & Game Region # _____	_____	Tahoe Regional Planning Agency
_____	Food & Agriculture, Department of	_____	Toxic Substances Control, Department of
_____	Forestry and Fire Protection, Department of	_____	Water Resources, Department of
_____	General Services, Department of		
_____	Health Services, Department of	_____	Other: _____
_____	Housing & Community Development	_____	Other: _____
S	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date 01/12/2016 Ending Date 02/11/2016

Lead Agency (Complete if applicable):

Consulting Firm: T&B Planning
Address: 17542 East 17th Street, Suite 100
City/State/Zip: Tustin, CA 92780
Contact: Shawn Nevill
Phone: (714) 505-6360 x115

Applicant: Newport Anacapa Associates, LLC
Address: 901 Dove Street, #270
City/State/Zip: Newport Beach, CA 92660
Phone: (949) 723-5854

Signature of Lead Agency Representative: _____ **Date:** 01/11/2016

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

CITY OF NEWPORT BEACH
COMMUNITY DEVELOPMENT DEPARTMENT
100 Civic Center Drive
Newport Beach, California 92660
949 644-3200
newportbeachca.gov/communitydevelopment

Memorandum

To: The Governor's Office of Planning and Research

From: Makana Nova, Associate Planner

Date: January 12, 2016

Re: Project Description for Notice of Completion to accompany Notice of Preparation/Initial Study for 150 Newport Center (PA2014-213)

The 150 Newport Center project consists of the demolition of an existing 8,500-square-foot car-wash, convenience market, and gas station to accommodate the development of a 7-story 49-unit residential condominium building with three levels of subterranean parking. Development of the proposed project would require the following approvals from the City of Newport Beach:

1. **General Plan Amendment** - to change the land use category from CO-R (Regional Commercial Office) to RM (Multi-Unit Residential) and establish an anomaly (Table LU2) designation for 49 dwelling units.
2. **Zoning Code Amendment** - to change the Zoning District designation from OR (Office Regional Commercial) to PC (Planned Community District) over the entire site.
3. **Planned Community Development Plan** - to establish a planned community development plan (PC) over the entire project site that includes development and design standards for 49 residential condominium units. In order to establish a planned community development plan, a waiver of the minimum site area of 10 acres of developed land is necessary. The applicant also requests an increase in the height limit to 75 feet 6 inches with mechanical appurtenances up to 83 feet 6 inches.
4. **Site Development Review** - to allow the construction of 49 multi-family dwelling units.
5. **Tentative Tract Map** -to establish a 49-unit residential condominium tract on a 1.3 acre site.
6. **Development Agreement** - review of a proposed development agreement that would provide public benefits should the project be approved.
7. **Environmental Impact Report (EIR)** - to address reasonably foreseeable environmental impacts resulting from the legislative and project specific discretionary approvals, the City has determined that an Initial Study and Environmental Impact Report (EIR) are warranted for this project pursuant to the California Environmental Quality Act (CEQA).

The City has prepared an Initial Study that provides a detailed project description and evaluation of the potential environmental effects of the proposed project. The Notice of Preparation and accompanying Initial Study are available for a 30-day public review period beginning January 12, 2015, and ending February 11, 2015. Following review of any comments received, the City will consider these comments as a part of the project's environmental review in the preparation of the Environmental Impact Report (EIR).

Community Development cityofirvine.org

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6000

February 2, 2016

Ms. Makana Nova
Associate Planner
City of Newport Beach
100 Civic Center Drive
Newport Beach, CA 92660

Subject: Review Notice of Preparation for an EIR for 150 Newport Center - Residential Condominium Project

Dear Ms. Nova:

The City of Irvine staff has received and reviewed the information on the referenced project and has no comments at this time. Thank you for the opportunity to review the proposed project. Staff would appreciate the opportunity to review the Draft Environmental Impact Report and any further information regarding this project as the planning process proceeds.

If you have any questions, I can be reached at 949-724-6314, or at dlaw@cityofirvine.org.

Sincerely,

David R. Law, AICP
Senior Planner

Cc: Bill Jacobs, Principal Planner (via email)
Sun-Sun Murillo, Supervising Senior Transportation Analyst (via email)

Nova, Makana

From: Jim Mosher <jimmosher@yahoo.com>
Sent: Thursday, February 11, 2016 9:44 AM
To: Nova, Makana
Subject: 150 Newport Center Drive scoping comments

Follow Up Flag: Follow up
Flag Status: Flagged

Makana,

My comments on the scope of the EIR for the proposed 150 Newport Center Drive project are as follows:

1. **Transportation/Traffic**: I think the argument of some residents that the new use would not *replace*, but rather *displace* and *add* to existing trips needs to be thoughtfully evaluated. Their logic is that when viewed regionally, the existing car wash trips will not only *continue* to exist, but will likely require *longer trips* to more distant car wash facilities, with the attendant environmental impacts. Plus the *new* use will add *new* trips connected with the new residents and their visitors.

2. **Aesthetics**: Whether or not there are any General Plan designated viewpoints in Newport Center, I believe the aesthetics of the project are a major concern to the public. This includes both impacts to views from Newport Center Drive and the aesthetic incompatibility of the project, as proposed, with the established aesthetic of the area. That aesthetic is established by the generous open space (and small building footprint) requirements of the surrounding "Planned Communities" – with which this project is clearly inconsistent.

3. **Land Use and Planning**: The project as proposed seems inconsistent with the General Plan vision of Newport Center having high rise at the north end transitioning to low rise development at the south end.

In addition, as acknowledged in the Initial Study, and in the Project Description (by the need to invoke a long series of legislative actions), the project is inconsistent with the specifics of the implementation of the General Plan in the City's current Planning and Zoning Code (Title 20 of the Newport Beach Municipal Code).

But without major policy changes having profound implications for future growth elsewhere in the City, whose impacts would need to be studied, I am doubtful that this project can be legitimized through the process proposed.

In particular, the declaration of a "Planned Community District" for a parcel of this size, and without a diversity of uses on the parcel itself, is incompatible with the way Planned Communities are envisioned in the City's General Plan [see, for example, **Implementation Program Section 4** Overview ("*The City of Newport Beach provides for a "Planned Community" (PC) designation for the development of large properties, usually under one ownership, with the objective of producing a well-defined and cohesive district that integrates one or more type of housing unit and supporting uses*…") and **Program 4.1** (new "Planned Community" Development Plans would be "*prepared for large scale development projects permitted by the General Plan. Principally, these would apply to Banning Ranch, and residential villages in the Airport Area*.") and the definition in the **Glossary** ("*Planned Community—A large-scale development whose essential features are a definable boundary; a consistent, but not necessarily uniform, character; overall control during the development process by a single development entity*…")].

At the scoping meeting it was asserted that 150 Newport Center Drive could be regarded as a component of a larger "Planned Community" (and hence somehow itself be regarded as a planned community) because a new residential tower would "complement" surrounding uses and together they would fit the definition. But this is incompatible with the idea of a district having a distinct boundary and the development within that boundary being controlled by a single development entity. Instead it sounds like spot zoning.

Additionally, even if (in contradiction of the General Plan directives) a 1.26 acre single-use development could be made eligible for a Planned Community Development Plan, **NBMC Section 20.30.060.C** implies that even "***with** the adoption of a Planned Community District*" the maximum height increase that can be allowed for flat-roofed structures is 50 feet if the PC District is regarded as "mixed use" (as a PC District should be) -- although the intent really seems to be to limit them to

32 feet if this is simply a multi-family residential building (as it appears to be). The proposed 85 foot height seems irreconcilable with what is allowed though adoption of a Planned Community Development Plan.

Again, compared to strict adherence to the current planning policies and codes, any interpretation or modification that would make this project compatible with them (for example, declaring a residential tower on a small parcel to be a "Planned Community" with completely discretionary height and setback standards) would have profound implications for the kinds and amount of development that would be allowable in Newport Beach in the future. The cumulative impact of making that policy change, or allowing the continued misinterpretation of existing policy, is immense and I think it has to be thoughtfully analyzed.

The fact that the "Planned Community" designation may have been misused in the past as a justification for spot zoning in Newport Beach and elsewhere makes this ominous precedent for uncontrolled future growth no less important.

4. **Project alternatives**:

a) I think the EIR should consider and contrast the proposal to what could be developed if the parcel had the City's "RM" (Multiple Residential) zoning designation, which seems to be the existing designation that would normally allow development of the sort proposed.

b) I also think the EIR should compare the impacts of the proposed project not only to the "No Project Alternative" (i.e., leaving the car wash) but also to the impacts of what could be legally built on the parcel under its existing zoning. I think that in attempting to evaluate the proposal, that would be very useful information.

I would appreciate your consideration of these matters in the EIR

Yours sincerely,

Jim Mosher
2210 Private Road
Newport Beach, CA 92660

AIRPORT LAND USE COMMISSION

FOR ORANGE COUNTY

3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

February 11, 2016

Makana Nova, Associate Planner
City of Newport Beach, Community Development Department
100 Civic Center Drive
Newport Beach, CA 92660

Subject: NOP of DEIR for 150 Newport Center Residential Project

Dear Ms. Nova:

Thank you for the opportunity to review the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the proposed 150 Newport Center Project. The proposed project is not located within the Airport Planning Area for John Wayne Airport (JWA). Therefore, the Airport Land Use Commission (ALUC) for Orange County has no comment on the NOP related to land use, noise or safety compatibility with the *Airport Environs Land Use Plan (AELUP) for JWA.*

Although the proposed development is located outside of the Airport Planning Area, please be aware that development proposals which include the construction or alteration of a structure more than 200 feet above ground level, require filing with the Federal Aviation Administration (FAA). Structures meeting this threshold must comply with procedures provided by Federal and State law, with the referral requirements of ALUC, and with all conditions of approval imposed or recommended by the FAA and ALUC including filing a Notice of Proposed Construction or Alteration (FAA Form 7460-1). We recommend you utilize the FAA notice criteria tool on the FAA website at https://oeaaa.faa.gov/oeaaa/external/portal.jsp to determine if a Notice of Proposed Construction or Alteration would be required for your project.

The proposed project does not include the development of heliports or helistops. For your information, should the development of heliports occur within your jurisdiction, proposals to develop new heliports must be submitted through the City to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Proposed heliport projects must comply fully with the state permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the ALUC for Orange County and by Caltrans/Division of Aeronautics.

Thank you again for the opportunity to comment on this NOP. Please contact Lea Choum at (949) 252-5123 or via email at lchoum@ocair.com should you have any questions related to the ALUC for Orange County.

Sincerely,

Kari A. Rigoni
Executive Officer

OCTA

AFFILIATED AGENCIES

Orange County Transit District

Local Transportation Authority

Service Authority for Freeway Emergencies

Consolidated Transporation Service Agency

Congestion Management Agency

Service Authority for Abandoned Vehicles

February 11, 2016

Ms. Makana Nova, Associate Planner
City of Newport Beach, Community Development Department
100 Civic Center Drive
Newport Beach, CA 92660

Subject: 150 Newport Center Drive Residential Condominium Project

Dear Ms. Nova:

Thank you for providing the Orange County Transportation Authority (OCTA) the opportunity to review the Notice of Preparation and Initial Study for the Newport Center Villas located at 150 Newport Center Drive. The following comments are provided for your consideration:

OCTA recommends employing measures to reduce potential disruptions to OCTA bus service during the Project's construction. OCTA requests the City of Newport Beach and Newport Center Anacapa Associates, LLC keep OCTA apprise of any potential bus stop disruptions or street closures that may necessitate detours.

With regard to bicycle facilities, on page 74 from section "4.5.16 Transportation/Traffic" under subsection f), provides the bicycle facilities near the project site. A Class II facility exists on Newport Center Drive, but on the segment that radiates southwards from the loop and connects to Pacific Coast Highway. According to the City of Newport Beach Bicycle Master Plan, no bicycle facilities currently exist on the loop portion of Newport Center Drive.

If you have any questions or comments, please contact me by phone at (714) 560-5907, or by email at dphu@octa.net.

Sincerely,

Dan Phu

Section Manager, Environmental Programs

SPON, P.O. Box 102, Balboa Island, CA 92662

February 10, 2016

Makana Nova, Associate Planner
City of Newport Beach, Community Development Department
100 Civic Center Drive
Newport Beach, California 92660

mnova@newportbeachca.gov

RE: Comments on NOP for Newport Center residential condomium project
(PA 2014-213)

Dear Ms. Nova:

Please include in our comments on the NOP the attached comments from Michelle Black of Chatten-Brown & Cartens LLP (October 6, 2015). These comments, which were sent in regard to the proposed Mitigated Negative Declaration, incorporate the primary issues we believe should be studied in the DEIR.

Specific issues of concern are aesthetics, land use including cumulative impacts, and changed character of the neighborhood including views and sight planes.

Planned Community Development

We have objected to the use of a Planned Community Development (PCD) for such a small parcel (1.26 acres) with a waiver of the usual requirement of 10 acres. A Planned Community Development is intended to identify land use relationships among other things. This project, in our view, can be called spot zoning or piecemeal planning. The increase in heights from 32 feet to 85 feet is inexplicable and sets a precedent for a total change in the character and impact of growth in this neighborhood. In addition to the change in height, this project is much bulkier and provides for less open space and smaller setbacks than surrounding parcels. The result is that the Project would change the visual characteristics of the area from low-rise office/commercial space with considerable landscaping and large setbacks to an area more representative of big city mass, bulk and heights. We believe that if the City intends to increase the intensity and density of uses in the southern portion of Newport Center, they should only do so with a full-scale General Plan Land Use Amendment for the southerly portion of Newport Center between Newport Center Drive and Pacific Coast Highway. This Project's application for a PCD should be denied as the impacts including cumulative impacts are

not definable and thus not mitigatable unless the EIR fully discloses the impacts associated with increased heights, increased bulk as a result of underground parking, population changes associated with change of use, and change in visual characteristics of the whole southerly portion of Newport Center.

Population and growth inducing impacts
City approval of the Newport Center Villas project would set a precedent for a change of use to high-density housing in the area. This may have a significant effect if surrounding property owners seek permits for similar projects with increased height, bulk, mass and change of use. The Project's population and growth-inducing impacts must by analyzed in the EIR.

Alternatives
In addition to the no-project alternative, an alternative that would maintain the 32 foot height limit should be considered.

Thank you very much for the opportunity to comment on preparation of this EIR.

SPON Board of Directors
Jean Watt, Board Member
Jwatt4@aol.com
949-673-8164

Subject: Additional Materials Received - 10/08/2015 PC Meeting

Attachments: SPON comments on NPT Center Villas -Final.pdf

From: Cynthia Kellman [mailto:cpk@cbcearthlaw.com]
Sent: Wednesday, October 07, 2015 11:38 AM
To: Nova, Makana
Subject: Mitigated Negative Declaration for the Newport Center Villas Residential Project; (PA2014-213), etc.

Dear Ms. Nova,

Attached please find a letter from Michelle Black, regarding the above-listed subject, for your review.

Please feel free to contact me with any questions or concerns.

Very truly yours,
Cynthia Kellman
Chatten-Brown & Carstens
2200 Pacific Coast Highway, Ste. 318
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Michelle Black
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Direct Phone:
310-798-2400 Ext. 5

October 6, 2015

Via Email ***mnova@newportbeachca.gov***

Planning Commission
City of Newport Beach

Makana Nova, AICP, Associate Planner
Community Development Department
Planning Division
City of Newport Beach
100 Civic Center Drive
Newport Beach, CA 92660

Re: Mitigated Negative Declaration for the Newport Center Villas Residential Project; (PA2014-213); General Plan Amendment No. GP2014-003; Zoning Code Amendment No. CA2014-008; Planned Community Development Plan No. PC2014-004; Site Development Review No. SD2014-006; Tract Map No. NT2015-003

Dear Ms. Nova and Honorable Members of the Planning Commission:

These comments are submitted on behalf of Stop Polluting Our Newport (SPON) regarding the Newport Center Villas Residential Project ("Project"). Founded in 1974, SPON is a non-profit public education organization dedicated to protecting and preserving the residential and environmental qualities of Newport Beach. The Project would construct 49 condominiums in a single seven-story building with three levels of subterranean parking on 1.26 acres located at the southwest corner of Newport Center Drive and Anacapa Drive. As proposed, the Project would conflict with the General Plan's designation of Regional Commercial Office, the Zoning Code district designation of Office Regional Commercial, the requirement that a Planned Community Development Plan cover 10 acres, and the existing height limit for the site. Consequently, the Project cannot be built unless the City grants amendments to both the General Plan and Zoning Code as well as a waiver of the Planned Community Development Plan requirements.

Despite these conflicts with the City's governing planning documents and code, the mitigated negative declaration (MND) prepared for the purpose of complying with the California Environmental Quality Act (CEQA) inexplicably finds that the Project will not

have significant impacts on land use or any other potential area of environmental impact. (*See, e.g,* MND pp. 4-58 to 4-63.) The MND also fails to adequately disclose and mitigate the Project's likely impacts on aesthetics, nighttime lighting and glare, traffic, and air quality, and land use. As a fair argument exists that the Project will cause significant environmental impacts, the City must prepare an EIR that provides alternatives to the Project.

The Newport Center Villas Project fails to comply with the City's governing land use plans and policies, and SPON respectfully requests that the Planning Commission withhold approval of the MND and deny the applicant's request for a Planned Community Development waiver for the Project.

I. A Planned Community Development Plan is Inappropriate and Unnecessary for the Project.

Planned Community Development Districts (PCDs) are governed by Newport Beach Zoning Code section 2.56.010, and exist to "provide for the development of land as coordinated, comprehensive projects in order to take advantage of the superior environment resulting from large-scale community planning." Further, "A Planned Community is intended to include various types of uses, consistent with the General Plan through the adoption of a development plan that identifies land use relationships." Thus, the PCD should be used to ensure consistency with existing land use plans and to provide more cohesive community planning in compliance with SB 375. For this reason, PCDs must exceed 10 acres in size.

The Newport Center Villas Project application claims to "ensure substantial compliance with the spirit and intent of the Zoning Code," but fails utterly to do so. While a 10-acre or larger parcel may require planning flexibility to achieve feasibility and consistency with surrounding land uses, there is no reason why a **1.26-acre parcel** needs to employ the PCD to provide for a coordinated, comprehensive Project. Instead, the Applicant appears to be misusing the PCD designation to skirt regulations of the Newport Beach Municipal Code intended to provide consistency in land use planning. Although the Project is located in the southern section of Newport Center, which is governed by height limits, the Project would be seven stories tall and reach a height of 83 feet, 6 inches once rooftop appurtenances are included. An additional two feet in height are permissible for "architectural rooftop features." Allowing an 83-foot-tall building in the southern section of Newport Center would create a significant change to the existing overall plan for Newport Center. Such a large change, which no doubt would become precedent for future developments in the area, should not be undertaken with a waiver of the area limits for a PCD and a Mitigated Negative Declaration.

The Project also fails to fulfill the purpose of the PCD, Zoning Code section 20.56.010 and other zoning laws that require consideration of the relationship of the proposed development plan to the goals, policies, and actions of the General Plan because the Project is inconsistent with the General Plan. The applicant proposes a Planned Community Development District for the Project in an "effort to ensure broader coordination and consistency with the surrounding neighborhoods, and to include a higher level of architectural quality supporting the Newport Center environment with pedestrian connectivity." This language is meaningless, misleading, and misrepresents the Project contained in the application.

Instead of providing for greater consistency, this Project would be five to six stories higher than surrounding buildings; it could not be less consistent with its surroundings. The Project would also completely change the appearance of the neighborhood. In addition to the change in height, the building is much bulkier and provides for less open space and smaller setbacks than surrounding parcels. The result is that the Project would change the visual characteristics of the area from an area of low-rise commercial and office space with considerable landscaping and large setbacks to an area more representative of central city mass, bulk, and height. An example of the change in building intensity is the Project's proposal for three stories of underground parking. Underground parking has not yet been requested in the southern, low-rise section of Newport Center because it is not needed under the existing lower-intensity land uses provided by the City's governing land use plans. If the City intends to increase the intensity and density of uses in the southern portion of Newport Center, it can only do so with the adoption of a full-scale General Plan Land Use Amendment for the southerly portion of Newport Center between Newport Center Drive and Pacific Coast Highway.

Granting the Project's application for a PCD for a Project that is up to six stories higher and much more intense in use than surrounding properties, based on a policy of ensuring land use consistency, undermines the integrity of the PCD District and the Newport Beach Zoning Code. The Project's application for a PCD must be denied.

II. The Project is Inconsistent with the General Plan's Land Use Element.

All projects approved in a city must be consistent with the general plan and its elements. "The general plan is atop the hierarchy of local government law regulating land use." (*Neighborhood Action Group v. County of Calaveras* (1984) 156 Cal.App.3d 1176, 1183.) For this reason, the General Plan has been described "the constitution for future development." (*DeVita v. Napa* (1995) 9 Cal.4th 763, 773, internal citations omitted.) The Newport Center Villas Project is inconsistent with several policies of the City's Land Use Element and cannot be approved.

Policy LU 1.6 of the Land Use Element requires the City to "Protect and, where feasible, enhance significant scenic and visual resources that include open space, mountains, canyons, ridges, ocean, and harbor from public vantage points." Regarding the Project's 83-foot-plus height, the MND states, "The Project's architectural design is complementary in type, form, scale, and character with existing and proposed surrounding land uses." (MND p. 4-59.) In support, the MND points to the high-rise buildings in the upper/northerly portion of Newport Center. However, these taller buildings with which the Project would be consistent are not actually located near the Project. In order to protect views consistent with the policies of the Land Use Element, the plans for Newport Center have always provided for higher rise buildings to the north along San Joaquin Hills Road with gradually decreasing heights toward the ocean and low-rise buildings abutting Pacific Coast Highway and nearby neighborhoods. The placement of an 83-foot-tall building in an area of low-rise development would block important public views of scenic resources. For example, views of the Pacific from Fashion Island would be compromised. Thus, the Project is inconsistent with General Plan policies designed to protect and enhance such views.

Policy LU 6.14.4 of the Land Use Element is focused on reinforcing "the original design concept for Newport Center by concentrating the greatest building mass and height in the northeasterly section along San Joaquin Hills Road, where the natural topography is highest and progressively scaling down building mass and height to follow the lower elevation toward the southwesterly edge along Pacific Coast Highway." (MND p. 4-61.) However, as described above, the Project proposes to place a seven-story building in the southwesterly section of Newport Center. At this site, only a low-rise Project would be consistent with the City's Land Use Element and General Plan.

As proposed, the Newport Center Villas Project is inconsistent with at least two policies of the City's Land Use Element and General Plan and cannot be approved in its current form.

III. The Project Will Have Significant Adverse Impacts Not Disclosed in the Mitigated Negative Declaration (MND), in Violation of CEQA.

The California Environmental Quality Act (CEQA) serves two basic, interrelated functions: ensuring environmental protection and encouraging governmental transparency. (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 564.) In connection with the Project's review under CEQA, the City has prepared an initial study and mitigated negative declaration. A lead agency prepares an initial study in order to determine whether an EIR, a negative declaration, or an MND is the appropriate environmental review document. (14 CCR § 15365, herein "CEQA Guidelines".) The initial study must consider whether any aspect of a project, either

individually or cumulatively, may cause a significant adverse impact. (CEQA Guidelines § 15063(b)(1).) The purpose of the initial study is to provide the lead agency with adequate information regarding a project to determine the appropriate environmental review document and "documentation of the factual basis for the finding in a negative declaration that a project will not have a significant effect on the environment." (*Ctr. for Sierra Nevada Conservation v. County of El Dorado* (2012) 202 Cal. App. 4th 1156, 1170, citations omitted.) There must be a basis within the record to support the conclusions reached by the initial study. (*Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1201.) "Where an agency. . . fails to gather information and undertake an adequate environmental analysis in its initial study, a negative declaration is inappropriate." (*El Dorado County Taxpayers for Quality Growth v. County of El Dorado* (2004) 122 Cal. App. 4th 1591, 1597, citations omitted.) Failure to adequately analyze all of a project's potentially significant impacts or provide evidence to support conclusions reached in the initial study is a failure to comply with the law.

Further, when a fair argument exists that a Project will have a significant environmental impact, an environmental impact report (EIR) must be prepared.

With regard to the Newport Center Villas Project, the City has failed to prepare a legally adequate initial study, improperly omitting consideration of potentially significant Project impacts and lacking evidentiary support for claims that Project impacts would be insignificant. This is particularly true regarding the Project's impacts on land use and aesthetics as a fair argument exists that the Project will have significant impacts on land use and other areas, and an EIR is required.

1. Adverse Impacts on Land Use.

Where a local or regional policy of general applicability, such as an ordinance, is adopted in order to avoid or mitigate environmental effects, a conflict with that policy in itself indicates a potentially significant impact on the environment. (*Pocket Protectors v. Sacramento* (2005) 124 Cal.App.4th 903.) Indeed, any inconsistencies between a proposed project and applicable land use plans must be discussed in an EIR. (14 CCR § 15125(d); *City of Long Beach v. Los Angeles Unif. School Dist.* (2009) 176 Cal. App. 4th 889, 918; *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal. App. 4th 859, 874 (EIR inadequate when Lead Agency failed to identify relationship of project to relevant local plans).) A Project's inconsistencies with local plans and policies constitute significant impacts under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 783-4, 32 Cal.Rptr.3d 177; see also, *County of El Dorado v. Dept. of Transp.* (2005) 133 Cal.App.4th 1376 (fact that a project may be consistent with a plan, such as an air plan, does not necessarily mean that it does not have significant impacts).)

As discussed above, the Newport Center Villas Project conflicts with at least two policies of the Land Use Element of the General Plan, Policies LU 1.6 and LU 6.14.4. However, instead of properly admitting these inconsistencies and redesigning the Project for consistency, the MND distorts its description of the existing conditions at Newport Center in order to claim consistency. This violates the spirit of CEQA. "The fundamental goals of environmental review under CEQA are information, participation, mitigation, and accountability." (*Lincoln Place Tenants Assn. v. City of L.A.* (2007) 155 Cal.App.4th 425, 443-444.) These significant environmental impacts on land use require preparation of an EIR. CEQA requires full disclosure of a project's significant environmental effects so that decision-makers and the public are informed of these consequences before the project is approved, to ensure that government officials are held accountable for these consequences. (*Laurel Heights Improvement Ass'n of San Francisco v. Regents of the University of California* (1988) 47 Cal.3d 376, 392.) Moreover, these significant land use impacts trigger the threshold for requiring preparation of an EIR. This EIR must properly disclose, analyze, and mitigate the Project's significant impacts on land use.

As mentioned briefly above, the Project's proposal to use a Planned Community Development District to provide for changes in zoning that include changes in use and increased height and mass is inappropriate. At 1.26 acres in size, the Project is less than the 10 acres in size required for use of a PCD. Additionally, the Project fails to meet the requirements for a waiver of the 10-acre minimum. Therefore, any proposed use of the waiver and PCD for this Project would create a significant land use impact that must be analyzed in an EIR.

By applying zone and other land use changes to a small, 1.26-acre area within the City, the Project is also an example of "spot zoning." This applicant requests a land use change to a land use that differs from that provided for surrounding parcels. Spot zoning is discouraged by the courts because it thwarts comprehensive land use planning. "Case-by-case reconsideration of regional land-use policies, in the context of a project-specific EIR, is the very antithesis of that goal." (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 572 -573.) This spot zoning is another significant land use impact that must be considered in an EIR.

The Proposed spot-zoning also implicates the Project's potentially significant cumulative impacts. An EIR is required to analyze the Project's potential for cumulative impacts related to land use planning in the Newport Center region. As defined by CEQA, "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts

can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines § 15355(b).) The cumulative impacts analysis exists to prevent cities from considering projects in a vacuum and to avoid a piecemeal approach to project decision-making. The Court of Appeal has stated than an improper cumulative impact analysis "avoids analyzing the severity of the problem and allows approval of projects which, when taken in isolation, appear insignificant but when viewed together, appear startling." (*Kings County Farm Bureau, supra 221* Cal.App.3d at pp. 739-740).

This Project sets a precedent for relaxing height limitations in an area that has been developed with primarily two-story buildings. If approved, the Project would also set a precedent for permitting use of PCDs to avoid existing land use restrictions for parcels as small as 1.26 acres in size. An EIR is required to analyze the impacts of relaxed height limits, spot zoning, and increases in bulk, mass, and resulting population growth in the Newport Center area.

2. Adverse Impacts on Aesthetics.

CEQA requires consideration of impacts to public views. (*Ocean View Estates Homeowners Ass'n, Inc. v. Montecito Water Dist.* (2004) 116 Cal.App.4th 396.) The Project's height in excess of 83 feet would result in blocked views of the Pacific Ocean from Fashion Island, as well as likely cumulative impacts as nearby properties seek to use PCDs and other means to evade height and bulk restrictions in the area.

Despite these potential impacts to public views, which require disclosure, analysis, and mitigation in an EIR, the MND fails to acknowledge that the Newport Center Villas Project will have any significant impacts on views. (MND p. 4-4.) This conclusion is not supported by substantial evidence. Rather, a fair argument exists that the Project will result in significant adverse impacts to views. This project will affect public and private views from Harbor View neighborhoods situated along MacArthur Blvd. as well as public roadways. Those situated in these areas will see lighted buildings and a much taller skyline when looking toward the ocean, resulting in obscured ocean views.

In order to protect the City's treasured views, the City of Newport Beach adopted a Sight Plane Ordinance in 1971 (Ordinance 1371) which provided height limitations for buildings within the Civic Center sites, known as the "Civic Center Sight Plane." The Corporate Plaza Planned Community, Ordinance 1496, was adopted in 1975 for the Civic Center site, bounded by Pacific Coast Highway, Avocado Avenue, Farallon Drive, and Newport Center Drive. Pursuant to this Sight Plane, buildings within this area are limited to 32 feet in height. The Project site is immediately adjacent to the Corporate Plaza Planned Community subject to the Sight Plane Ordinance. In addition to providing for

inconsistent land use, the Project's 83-foot-height will also result in impacts to these Sight Planes.

The MND repeatedly compares the Project to buildings located in taller portions of Newport Center in order to obscure its inconsistency with the heights of other buildings in the southern portion of the development. The height of existing structures in the vicinity of this Project are:

- Office buildings to the southwest: approximately 24 feet to 27 feet;
- Buildings directly across Anacapa Drive to the east: 2-3 stories;
- Buildings located to the north across Newport Center Drive: 23 -25 feet;
- Height limits for Block 100 are 50 feet although current buildings are lower.

Thus, the MND's comparison to the higher-rise buildings located in the northern part of Newport Center is misleading, at best. The Newport Center Villas Project is proposed for the southerly section of Newport Center heretofore planned as low-rise in order to maintain a Sight Plane consistent with views toward the ocean and surrounding neighborhoods. Any development to the contrary will result in significant adverse impacts on both aesthetics and land use that must be disclosed, analyzed, and mitigated in an EIR.

The MND further fails to provide view simulations from public viewpoints that could be adversely impacted by the Project. A view simulation from the public park next to Macy's (and the escalators) in Fashion Island should also be provided. The public view south from this outlook, toward the ocean and directly over the existing carwash, would be dominated by the proposed Project's 83-foot-tower. This significant aesthetic impact must be disclosed to the public.

Finally, the Project will create new sources of substantial light and glare which would adversely affect day and nighttime views in areas surrounding Newport Center. Nighttime lighting emanating from the building and its condominiums will be the first nighttime lighting to impact residents living east and west of the Project site. An EIR must also study the cumulative impacts of nighttime lighting if other neighboring parcels follow the City's proposed precedent of increased height and change of use in and around Newport Center.

3. Adverse Impacts on Traffic.

Although construction of the Project would generate traffic associated with grading and workers, the MND contains no discussion of what these traffic impacts might be, whether they are significant, or whether they require mitigation. Considering that the

MND estimates over 250 workers would be required and 51,600 cubic yards of soil would be removed for the subterranean garage, this is a significant omission. (*See* MND p. 3-1.) If trucks with a capacity of 10 cubic yards are used to remove soil, 5,160 two-way trips to the site would be required. These traffic impacts may adversely affect air quality. Most large trucks used to haul dirt and demolition debris are fueled by diesel. Diesel particulate matter has been recognized as a probably carcinogen by the California Air Resources Board and is correlated with premature death, heart attacks, and acute pulmonary distress. Although temporary, these impacts must be evaluated and would likely be considered significant. CEQA requires the analysis of temporary construction impacts. (*City of Arcadia v. State Water Resources Control Bd*. (2006) 135 Cal.App.4th 1392, 1425.)

4. Adverse Impacts on Air Quality.

The Air Quality analysis prepared for the Project and enclosed as Appendix B to the MND is based on inaccurate information and an underestimation of the truck trips required to construct the Project, the Project's floor surface area, and the presence idling mobile sources. This underestimation results in the MND's failure to adequately disclose, analyze, and mitigate the Project's adverse impacts on air quality.

The number of haul truck trips required for the demolition of the existing carwash, entered into the CalEEMod model to estimate construction air quality impacts is understated. The MND states that demolition would produce approximately 80 tons of debris, 240 cubic yards of concrete, and 620 cubic yards of asphalt that would need to be hauled away. Assuming a weight of 1 ton per cubic yard and 20 yards per truck, the demolition would require approximately 47 truck trips, far in excess of the 8 truck trips assumed by the air quality analysis. If 10 cubic yard trucks are used to remove debris, the demolition would require 94 truck trips. The air quality analysis must be revised to accurately account for the environmental impacts of debris removal. If these impacts are significant, an EIR is required.

Additionally, the "Floor Surface Area" used in CalEEMod to calculate the Project's emissions is incorrect. The MND states that the gross floor area of the proposed project is 163,260 square feet. (MND p. 3-1.) However, the surface area used in the CalEEMod analysis was 50,400 square feet, a much smaller number. The erroneous inclusion of this smaller number in the CalEEMod analysis cascades to inaccurate estimates of emissions from construction, architectural coatings, and operations and results in the MND's underestimation of the Project's overall construction and operational emissions. Thus, the air quality mitigation measures proposed in the MND are insufficient to mitigate the Project's emissions. An EIR should be prepared that thoroughly analyzes the Project's construction and operational emissions using accurate

inputs. Further, feasible, enforceable, and effective mitigation must be provided for all of the construction and operation emissions identified in the revised analysis.

The air quality analysis concludes that the proposed Project does not include stationary sources and mobile sources that may idle for long periods of time. (Appendix B, p. 29.) Consequently, the MND and air quality analysis provide no operational Localized Significance Threshold (LST) analysis. Regardless, operational LST is required for this Project. Condo/Townhouse projects are listed in the South Coast Air Quality Management District's (SCAQMD's) Final Localized Significance Threshold Methodology LST guidance document (Table 3.1) (revised July 2008) as projects which require LST analysis. (See, SCAQMD LST document, available at http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2.)

Given the air quality analysis' underestimation of Project emissions, the MND's conclusion that the Project will not have an adverse impact on air quality lacks substantial evidence. Instead, it is likely that the Project will exceed SCAQMD thresholds of significance for significant air quality impacts. An EIR that fully evaluates and mitigates the Project's air quality impacts is required.

5. Population and Growth-Inducing Impacts.

City approval of the Newport Center Villas Project would set a precedent for a change of use to high-density housing in the area. This may have a potentially significant effect if surrounding property owners seek permits for similar projects with increased height, bulk, mass and change in use. The MND's failure to analyze this change is unsupported. The Project's population and growth-inducing impacts must be analyzed in an EIR.

6. Adverse Cumulative Impacts.

Cumulative impact analysis is important because "One of the most important environmental lessons evident from past experience is that environmental damage often occurs incrementally from a variety of small sources." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720.) While the City has included a list of cumulative projects in the MND, this list is limited to those that are foreseeable under the current zoning and General Plan. This analysis omits any discussion of the precedent-setting nature of this Project, which would permit spot-zoning and use of a PDC to evade height and other limitations that would otherwise apply to the Project site. The Project sets a whole new precedent for heights in the lower Newport Center area. The adjacent properties in Block 100 are limited to 50 feet in height but are currently only 22 feet tall.

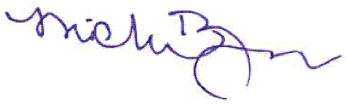
The properties immediately adjacent to Block 100 to the south are currently limited in height by the Sight Plane Ordinance. The City's proposed precedent could result in these height limits being lifted at any time, resulting in significant new growth, mass, bulk and height inconsistent with surrounding neighborhood that has not been analyzed under CEQA or in connection with the City's Land Use Element or other planning documents. The cumulative impacts analysis is therefore incomplete, as there is substantial likelihood that the increase in bulk, mass and heights of the Project will set a precedent for new applications of similar size and impact.

In *San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, the Court of Appeal found that, absent meaningful cumulative analysis, there would never be any awareness or control over the speed and manner of development in downtown San Francisco. In that case, the court found the city's refusal to take into account other similar development projects to be a violation of CEQA. (*Id.* at 634.) "Without that control, 'piecemeal development would inevitably cause havoc in virtually every aspect of the urban environment.'" (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720.) Similarly, without adequate cumulative analysis of the City's disregard for existing height and bulk limitations in Newport Center, the City will lose control over development of the area.

Conclusion

Thank you for your consideration of these comments. Due to the Newport Center Villas Project's failure to comply with the City's General Plan and other governing land use documents and the MND's failure to adequately disclose, analyze, and mitigate the Project's likely significant impacts on land use, aesthetics, traffic, and air quality, among others, we respectfully request that the Commission reject this Project until it is revised to comply with CEQA and the governing land use plans and policies. Compliance with CEQA will require preparation of an adequate EIR that analyzes alternatives to the seven-story residential building proposed. We look forward to reviewing the applicant's revised plans for this Project and to the Commission's action to preserve the integrity of the City of Newport Beach's planning process.

Sincerely,



Michelle N. Black, on behalf of
Stop Polluting Our Newport

IRVINE COMPANY

Since 1864

February 9, 2016

City of Newport Beach
Attn: Makana Nova, Associate Planner
100 Civic Center Drive
Newport Beach, CA 92660

Subject: 150 Newport Center Residential Condominium Project – Notice of Preparation/Initial Study Comments

Dear Ms. Nova:

Irvine Company would like to provide the following comments on the Notice of Initial Study dated January 16, 2016 for the 150 Newport Center proposed project in Block 100 of Newport Center. Irvine Company previously submitted a comment letter dated September 29, 2015 in response to the Mitigated Negative Declaration prepared for the project.

The September letter detailed that Special Land Use Restrictions (SLURs) exist between Irvine Company and Beacon Bay Enterprises, Inc., owner/operator of the car wash. In addition, there is an existing easement for ingress/egress only along the southern boundary of the proposed project which provides access to Block 100 from Anacapa. As previously noted, the easement is established through a grant deed recorded in February 1992. The easement is not affected by the SLUR termination date and the easement restrictions will remain in effect. Furthermore, as indicated on the Conceptual Grading Plan (Figure 3-2), there is an existing 18 foot wide reservation for pedestrian use that is referenced as being proposed for removal. While, based on our understanding of the proposed plans, it could be appropriate to reduce the width of the reservation to match the width of the proposed parkway, it would not seem appropriate to completely remove this reservation as this existing means of pedestrian access to Gateway Plaza should continue to be provided. However, we recognize that the plans will need to be revised based on the rolled curb design but offer this comment to ensure that pedestrian access is included in the updated design.

Both the MND and the Initial Study identify the intended use of the ingress/egress drive south of the project for parking of moving trucks and trash truck pick-ups. New renderings available for review at the January 27 scoping meeting show a rolled curb along the south boundary which would allow vans and small trucks to park partially on the roadway and partially on the property. It is our understanding that trash trucks and large moving vans would still be required to park entirely within the Gateway Plaza access road. The access road from Anacapa provides significant vehicular access to Gateway Plaza. It is important that the proposed project be designed in such a way that ensures both the vehicular access and the adjacent pedestrian connections can continue to be provided safely and efficiently. Without additional design details and/or specifics regarding how the loading zone is going to operate, the "less than significant" finding listed for Item d on page 73 of the Initial Study

might be inappropriate relative to both operations of the access road from Anacapa and to the existing pedestrian access along the northerly side of the access road.

Irvine Company continues to disagree that moving van and trash truck parking, and loading/unloading are consistent with the permitted uses for ingress/egress drive aisles that are defined in the easement for this access road. The road is for the exclusive purpose of providing vehicle access to and from the properties within Block 100 and is not designed to accommodate moving and trash vehicle operations and other anticipated uses such as repair and maintenance vehicles. While we understand that the City public works department has indicated that the road width will accommodate parked vehicles and drive-by vehicles, the Anacapa entrance to Block 100 is an important site access and delivery and utility trucks will be disruptive and inconsistent with the existing easement.

In addition, our September 2015 comments included a request that more details be provided regarding the construction phasing, staging and roadway impacts. Construction operations including staging were not addressed in the MND. No additional information was provided in the Initial Study in terms of where construction equipment will be located and where construction vehicles will be parked, the proposed routes for hauling of debris and delivery of materials and how construction activities will be kept off adjacent properties, including parking lot areas. Irvine Company requests that the DEIR include a detailed construction phasing plan including identifying duration of street closures. Street closures around holidays would be particularly disruptive. Irvine Company further requests a detailed construction staging plan. During construction of the proposed project, there should be no use of any portion of Block 100, in particular the Anacapa access road, for any construction-related activities including worker parking.

Conclusion

Irvine Company would like to ensure that the DEIR contains sufficient analysis to address the issues identified herein which could potential result in significant environmental impacts. We would be happy to meet with the City and the applicant to discuss our concerns in order to resolve the potential impacts related to ingress/egress and construction.

Thank you for this opportunity to provide the City with comments.

Sincerely,

Dan Miller
Senior Vice President
Entitlement and Public Affairs

c: Kimberly Brandt, Community Development Director

OC PublicWorks
Integrity, Accountability, Service, Trust
Shane L. Silsby, Director

NCL 16-005

February 11, 2016

Ms. Makana Nova, Associate Planner
City of Newport Beach/Community Development Dept.
100 Civic Center Drive
Newport Beach, California 92660

SUBJECT: Notice of Preparation of an Environmental Impact Report for the 150 Newport Center Residential Condominium Project:

Dear Ms. Nova:

The County of Orange has reviewed the Notice of Preparation of an Environmental Impact Report for the 150 Newport Center Residential Condominium located in City of Newport Beach and has no comments at this time. We would like to be advised of any further developments on the project. Please continue to keep us on the distribution list for future notifications related to this project.

Sincerely,

Laree Alonso, Manager, Planning Division
OC Public Works Service Area/OC Development Services
300 North Flower Street
Santa Ana, California 92702-4048
Laree.alonso@ocpw.ocgov.com

LA/yj

March 6, 2016

Dear City of Newport Beach,

The following are comments regarding the “150 Newport Center” project in Newport Center:

1) Traffic. Newport Center traffic is already unacceptable by the resident’s standards, if not the city’s standards. Adding another 49 dwelling units will only increase the problem. Because of its location in Newport Center, it will have an effect on the residents of Big Canyon, whose only exit is onto San Joaquin Hills Road. This will also make it harder for emergency vehicles to get in/out of Big Canyon during peak traffic hours, potentially putting the health of the residents of Big Canyon at risk.

   I would also like to point out that the city has allowed The Irvine Company to move entitlements around in the Newport Center area, but has not recalculated the traffic effects as far as I can see. This means that these will all need to be calculated to determine if the traffic will exceed the Greenlight standards. For example, if retail square footage is converted into office tower square footage, the traffic demands will be different. In this example, retail would have a very low AM peak traffic trip generation rate, while a business office tower has a very high rate. As the net traffic may increase for the 150 Newport Center project, the other entitlement switches previously made may trip a Greenlight election for traffic and this needs to be calculated and included in the EIR.

2) Water. This project will add to the water deficit that already exists within the city, putting pressure on other residents to save more during this drought and future droughts. This project should not consider that the Poseidon Water Desalination plant is a source of potable water, as this plant has not yet even been approved to be built and may never be constructed.

3) View. This project adds to the ‘wall of buildings’ that are emerging from Newport Center and will block views of Saddleback Mountain looking inland and views of the ocean looking seaward.

4) Cell phone reception. The emergence of a 'wall of buildings' has disrupted cell phone reception for other neighborhoods. When the Irvine Company building reached its full height, Verizon reception in the Port Streets was degraded. This additional building might reasonably be expected to do the same thing and disrupt nearby cell phone service.

5) Greenlight election. Despite the claims of the City representatives, this development is required to have a Greenlight election (I appreciate Jim Mosher for pointing this out). In 2012, the City approved reallocation of 430 dwelling units to the San Joaquin Plaza from block 500, 600 and the San Joaquin Plaza as well as reallocation of 15 addition residential units from the MU-H3 area to the San Joaquin Plaza. These represented allowable reallocations of previously approved dwelling units under city rules.

   However, the city also documented that it was converting 79 unbuilt hotel rooms into residential units as well. This is not allowed under the Greenlight implementation guidelines and as such, represents the addition of 79 new units (not reallocated units) into San Joaquin Plaza.

   Section 423 of the Newport Beach Municipal Code (Greenlight) clearly states in section 3(1) that a vote shall be held if there is an increase of 100 dwelling units in a given statistical area. It further states that "the term 'dwelling unit' shall be applied as defined in the Newport Beach Municipal Code." The Newport Beach Municipal Code defines a dwelling unit section 20.70.020 (paraphrased) as a living area that has kitchen facilities and is utilized for residential purposes (see full definition below).

   Thus the city has erred in converting hotel units to dwelling units. While this would not affect the San Joaquin Plaza development, because the increase in units is below the 100 dwelling unit trigger for an election, it does impact the 150 Newport Center project.

   Greenlight uses 80% of the prior project's overage to calculate the remaining balance. In this case, 79 units times 80% equals 63 units carried forward. Therefore, the 150 Newport Center project could

develop an additional 37 dwelling units, but the 38th unit will trigger a vote.

I would like to believe that this was an innocent error on the part of the Planning Department, but now that it has been detected, it is incumbent on the city to accept that a Greenlight vote is required.

8) I also incorporate by reference the comments of Jim Mosher, SPON and Debra Stevens.

Thank you,

Susan Skinner, MD
2042 Port Provence Place
Newport Beach, CA 92660
Please consider this letter submitted by me as an individual and also submitted as a representative of Stop The Dunes Hotel.

Per the Newport Beach Municipal Code:

"Dwelling unit" means an area within a structure on a lot that:

1. Contains separate or independent living facilities for one or more persons, with area or equipment for sleeping, sanitation and food preparation, and that has independent exterior access to ground level; or
2. Is being utilized for residential purposes by one or more persons separately or independently from occupants of other areas within the structure.

"Facilities for food preparation" means a room or part of a room used, intended, or designed to be used for cooking or the preparation of food. The presence of a range or oven, or utility connections suitable for servicing a range or oven, shall be considered as establishing a kitchen. The meaning of "kitchen" shall exclude a bar or butler's pantry.

"Independent access" means an arrangement of dwelling units so that each dwelling unit has an entrance directly into the unit that is separate from the entrance into another unit.

(I would like to note that using this definition, the Bungalows at the Tennis Club may actually count as residential units as well and would thus also count into the Greenlight calculations.)