TENNIS CLUB AT NEWPORT BEACH
PROJECT AMENDMENT

Prepared for:

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SECTION 1.0 – INTRODUCTION

1.1 OVERVIEW/PURPOSE

This addendum to the Mitigated Negative Declaration (SCH 2010091052) and its Errata (together referred as "2010 MND") prepared for the Tennis Club at Newport Beach Project (PA2005-140), provides a summary of the 2010 MND conclusions, analyzes potential environmental impacts that would result from changes to the original project description since certification of the 2010 MND, and summarizes the impact conclusions. The 2010 MND for the Tennis Club at Newport Beach Project was certified by the City of Newport Beach (City) on January 24, 2012. However, only the proposed developments on the Tennis Club site analyzed in the 2010 MND were approved (Approved Project). Since the 2010 MND approval, the Approved Project has not been implemented; and the Applicant has submitted an application to modify the Approved Project.

1.2 CEQA REQUIREMENTS

In order to satisfy the conditions set forth in §15162 through §15164 of the *State California Environmental Quality Act (CEQA) Guidelines,* the City has used Appendix G of the CEQA Guidelines for the Tennis Club at Newport Beach Project (Proposed Project or Addendum) to make the following determinations:

- Ø No substantial changes are proposed in the Addendum that require major revisions to the original Final Mitigated Negative Declaration (MND) prepared by the City due to the involvement of significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Ø No substantial changes will occur with respect to the circumstances under which the Proposed Project is undertaken, and no major revisions to the Final MND will be required; and

- Ø No substantial new information has been provided that would require a major revision to the Final MND.

Based on the information incorporated and the changes associated with the Proposed Project, there are no conditions that would require the preparation of a subsequent or supplemental MND pursuant to §15162 through §15164 of the CEQA Guidelines.

This Addendum incorporates by reference portion of the Newport Beach Country Club Initial Study and Mitigated Negative Declaration (SCH #2010091052) and its Errata, referred herein as the 2010 MND. Therefore, the Mitigation, Monitoring, and Reporting Plan (MMRP) for the 2010 is still valid, and the mitigation measures noted in that document have also been incorporated within this Addendum.

SECTION 2.0 – PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 PROJECT BACKGROUND

The Approved Project consists of the redevelopment of the Tennis Club site with a new tennis clubhouse and retention of seven (7) tennis courts, a new 27-room boutique hotel with a concierge and guest meeting facility and a spa, and five (5) new single-unit residential dwellings. To date, the Approved Project has not yet been implemented.

The approved entitlements for the Approved Project consist of the adoption of Newport Beach Country Club Planned Community Development Plan (PC-47-47) with development standards for the Approved Project as part of the overall development of Newport Beach Country Club properties that also includes the adjacent Newport Beach Country Club Golf Course site, Site Development Review for the Project implementation, Vesting Tentative Tract Map for the Approved Project subdivision, Limited Term Permit for temporary use of temporary buildings during construction, a Coastal Development Permit for the demolition of existing structures on the subject property and implementation of the Approved Project, and a Development Agreement to provide the applicant the vested rights to implement the Approved Project provided it is in compliance with the approved entitlements and development standards specified in PC-47-47 for the subject property. The City also approved the 2010 MND that addressed the potential environmental effects associated with the Approved Project. The redevelopment on the golf course site analyzed in the 2010 MND was not approved as part of the Approved Project.

The applicant has submitted an application to modify the Approved Project, and the modifications to the Approved Project are analyzed in this document as the Proposed Project. This CEQA document intends to identify and analyze all probable environmental impacts from the related Proposed Project activities, either during construction or operation; identify and suggest mitigation measures to help reduce the level of significance of any impact.

2.2 PROJECT LOCATION AND SITE CHARACTERISTICS

2.2.1 Location

The subject property encompasses approximately 7 acres in the City of Newport Beach. The Project site is generally bordered by East Coast Highway on the south, Jamboree Road on the west, Santa Barbara Avenue and Newport Center on the north, and Corporate Plaza West on the east and south.

2.2.2 Surrounding Land Uses and Project Setting

The Project site is currently occupied by the Tennis Club at Newport Beach with 16 tennis courts, 31 interim-use pickleball courts, a 3,725 square-foot tennis clubhouse and 125 surface parking spaces and is surrounded by existing development as noted in Table 2-1, below. The Granville residential community is located to the north of the Project site; Corporate Plaza West borders the site on both the south and east; and the Newport Beach Country Club golf course borders the site on the west.

Table 2-1 – Land Uses and Zoning

Location	General Plan	Zoning	Current Use
Project Site	MU-H3/PR	PC-47-47 (Newport Beach Country Club Planned Community)	Newport Beach Tennis Club
North	RM (Multiple-Residential)	RM (Multiple Residential)	Granville residential community,
South	CO-G (General Office)	PC-47-40 (Corporate Plaza West)	Corporate Plaza West office development
East	CO-G	PC-47-40	Corporate Plaza West office development
West	PR (Parks & Recreation)	PC-47-47	Newport Beach Country Club Golf Course

2.3 PROJECT DESCRIPTION

The Approved Project included the following components (2010 MND):

- ***Tennis Club*** – the Tennis Club consists of retention of seven tennis courts including construction of one new stadium court, and a new 3,725 square-foot tennis clubhouse. The tennis clubhouse is approximately 30 feet in height. Approximately 28 parking spaces are provided for the tennis club.
- ***Hotel*** (***The Bungalows)*** – A new 27-room boutique hotel with a 2,200 square-foot concierge and guest center, and a 7,500 square-foot spa/fitness center. The hotel rooms are approximately 31 feet in height. Approximately 34 parking spaces are provided for the hotel.
- ***Residential*** (***The Villas)***– Five new detached single-family residential dwelling units ranging in size from 2,201 square feet to 5,297 square feet. The residential units are approximately 39 feet in height. Enclosed parking spaces with open guest parking are provided for each of the units.

The following is a brief description of the Approved Project components; and Table 2-2, below, summarizes the development phasing for each of the Approved Project components:

Tennis Club (Clubhouse and Tennis Courts):

The maximum floor area of the tennis clubhouse is 3,725 gross square feet and will have a maximum building height of 30 feet (measured from the existing grade to the peak of the roof). The tennis clubhouse includes a lobby, pro shop, office, and locker rooms. A total of seven (7) tennis courts, including one stadium court will replace 24 tennis courts that currently exist on the subject property. Screening for the tennis courts from the residential unit (The Villas E) will also be provided in the form of a five-foot block wall that would be designed to be compatible with the proposed Villa E, adjacent to the tennis courts. In addition, the exterior perimeter of the tennis courts facing the Granville Condominiums, Granville Drive, and the Tennis Club parking lot will also be screened, utilizing the existing 10-foot-high chain link fence covered by a wind screen.

Hotel (Bungalows):

The hotel development will consist of 27 rooms (Bungalows) that encompass approximately 28,300 square feet of floor area. A 2,200 square foot concierge and guest Center is also included in this

development component. In addition, the hotel spa, which is an auxiliary use for and part of the Bungalows, encompasses 7,500 square feet. The square footages noted here are slightly different than what was included in the 2010 MND, as these square footages were what was actually approved by the City. This facility will include a fitness center, spa, spa bar and lounge. Other features include a Zen Garden, Jacuzzi, and swimming pool. The pool and/or spa equipment will be enclosed by five-foot block wall. The maximum building height of the Bungalows is 31 feet, measured from the existing grade to the peak of the roof.

Residential (The Villas)

The five (5) detached single-family residential units (Villas) are proposed within a 1.25-acre sub-area. Lot sizes of the Villas will vary from 5,295 square feet (Villa A) to 17,151 (Villa D) square feet. Homes will range in size from 2,201 square feet (Plan A) to 6,384 square feet (Plan D). The maximum building heights (measured from existing grade) permitted for the Villas ranges from 23 feet (Villa A) to 39 feet (Villa D). Swimming pools are also permitted for each of the five Villas.

Table 2-2 – Approved Project Development Phasing

Tennis Club Site - Phase	Description	Duration (Months)	MND Exhibit Reference	Revised Phasing Plan (5/25/11)
1	Installation of temporary modular tennis clubhouse[1]	1	4	1
	Demolition of tennis club building, 9 tennis courts, perimeter tennis court fence remains, portion of tennis club parking lot (61 parking spaces), landscaping and small portion of existing site wall	1	4	2
2	Construct the villas (3), private street, new tennis clubhouse and parking lots	14	6	4
	Demolition of 3 tennis courts, small portion of tennis club parking lot and remaining tennis club building	1	5	3
3	Construct center court area and hotel pool	3	8	6
	Demolition of 3 tennis courts, remaining portion of old tennis club parking lot and removal of temporary modular tennis clubhouse	1	7	5
4	Demolition of 2 tennis courts, and perimeter tennis court fence in front of the 3 completed Villas – After substantial completion of the bungalow's removal of perimeter tennis court fence in front of the bungalows.	1	9	7
	Construct bungalows and remaining 2 villas.	15	10	8
Total Schedule		**36**		

[1]Anticipated Start date is September 2011
SOURCE: The Templeton Planning Group (May 2011) (2010 MND)

2.3.1 Revisions to the Approved Project

The applicant has submitted an application to modify the Approved Project as follows:

1. Reduce the number of tennis courts by three (3) for a total of four (4).

2. Add 14 pickleball courts, including a stadium (approximately 104' by 148' in size) with two pickleball courts, to the site plan.
3. Increase the number of hotel rooms by 14 for a total of 41 rooms (an additional 19,184 square feet).
4. Add hotel auxiliary uses consisting of performance therapy (852 square feet), yoga pavilion (633 square feet), office space (2,620 square feet), and common area (581 square feet). The floor area for all new auxiliary uses totals 4,686 square feet and is located within the "Bungalow Lofts" building.
5. Replace three (3) of the five (5) residential homes with three attached condominiums (two units are located within the "Bungalow Lofts" building and one unit is located within the "Fairway Lofts" building). Two (2) residential units will remain as detached single-family.

The proposed 41 hotel rooms, which includes the additional 14 rooms as part of the Project revision, have a modified site layout. Whereas 19 of the original 27 hotel rooms will remain as "Bungalow" style units, 22 hotel rooms are proposed to be located within two loft buildings ("Bungalow Lofts" and "Fairway Lofts"), which also includes three attached residential condominiums. The two proposed lofts buildings are approximately 46 feet in height.

There are no changes to the overall size, height, location, and design of the tennis clubhouse. The number of tennis courts have been reduced to four, and 14 of existing 31 interim-use pickleball courts will be retained at the site, including two pickleball courts within the new stadium (approximately 104' by 148' in size). The tennis courts are placed on the perimeter closest to the Granville residences, while the pickleball courts are located away from the residences. In addition, sound buffer screens will be installed on the fences that line the outside of the perimeter courts to reduce sound levels.

The amendment to the Approved Project, as described above, constitutes the Proposed Project that is being analyzed in this CEQA Addendum document. The Proposed Project application necessitates legislative amendments to the general plan, local coastal program land use plan and planned community, as the proposed amendment is not allotted in the current land use regulatory plans. A new development agreement is also requested. Upon approval and certification of the local coastal program amendment by the California Coastal Commission, subsequent discretionary amendments (e.g., coastal development permit, site development review, tentative tract map, limited term permit, etc.) are also required to implement the Proposed Project.

Table 2-3 – Comparison of Approved Project vs Proposed Project

Project Component	Modification	Approved SF	Net SF Change	New SF
Tennis Club				
Tennis Clubhouse	No change	3,725	No change	3,725
Tennis Courts	-3 Tennis Court	7 Courts	-3 Courts	4 Courts
Pickleball Courts	+14 Pickleball Courts	N/A	+14 Courts	14 Courts
Hotel				
Hotel (Bungalows and Lofts)	+14 rooms = 41 rooms	28,300	+19,184	47,484
Concierge Guest Center	No change	2,200	No change	2,200
Ancillary to Hotel	+Performance Therapy	N/A N/A	+852 +633	

Project Component	Modification	Approved SF	Net SF Change	New SF
	+Yoga Pavilion +Office +Common Area Spa/Fitness Center	N/A N/A 7,500	+2,620 +581 No change	4,686 7,500
Residential				
Condominiums (3 units)	+Catalina Penthouse +Monarch Penthouse +Fairway Penthouse	N/A N/A N/A	+5,843 +4,509 +4,683	15,035
Single-Family Residence (2 Units)	Villa A Villa B	2,178 3,440	No change	5,618
Total Residential (5 units)	No net change in units	24,583	-3,951	20,632

Notes: Table provided by Applicant
SF = square foot/feet

2.3.2 Project Schedule and Construction Phasing

The Proposed Project is expected to break ground in January 2031 and be completed by October 2032, for a total of 21 months in five (5) overlapping phases, with the durations and required equipment provided in Table 3, below. During construction, two (2) temporary modular trailers will be installed and used onsite for office uses. Construction activities at the Project site, including hauling of material to and from the site, will take place between the hours of 9:00 a.m. and 4:30 p.m. Monday through Friday. To avoid the peak traffic hours during summer months (defined as beginning the Friday preceding Memorial Day and ending on Labor Day), hauling and deliveries will not be allowed between 7:00 a.m. to 9:00 a.m., and after 4:30 p.m.

Table 2-4 – Construction Phasing

Phase	Duration	Equipment
Phase 1 Installation – Placement of temporary modular tennis office, temporary modular construction office, temporary portable toilets, removal of one tennis court, and fencing	1 week	Skip loader, backhoe, water truck, and pick-up truck
Phase 2 Demolition – demolition of tennis club buildings, portion of the parking lot, removal of 15 tennis courts, and removal of 7 pickleball courts	1 month	Loader, water truck, excavator, power screen crusher, pick-up truck
Phase 3 Site Work – rough grading and utilities	2 months	Motor scraper, dozer, rubber tire dozer, motor grader, excavator, loader, skip loader, crew truck, water truck, pick-up truck
Phase 4 Construction – Bungalows, Bungalow lofts, Bungalow pool, Stadium Court, two new	13 months	Extended reach forklift, mobile crane, crane, delivery truck, crew truck, pick-up truck

Phase	Duration	Equipment
pickleball courts, private street, new tennis club house, west parking lot		
Phase 5 Demolition/Construction – new residential units, fairway lofts, new hotel units, demolition of parking lot, new east parking lot, install sound blankets, and restriping, as needed	12 months	Motor grader, paving machine, vibratory roller, skip loader, backhoe, water truck, crew truck, pick-up truck

2.3.3 Documents Incorporated By Reference

- Newport Beach Country Club Initial Study and Mitigated Negative Declaration (SCH #2010091052) and its Errata.

Figure 1 – Project Vicinity Map

Figure 2 – Site Plan

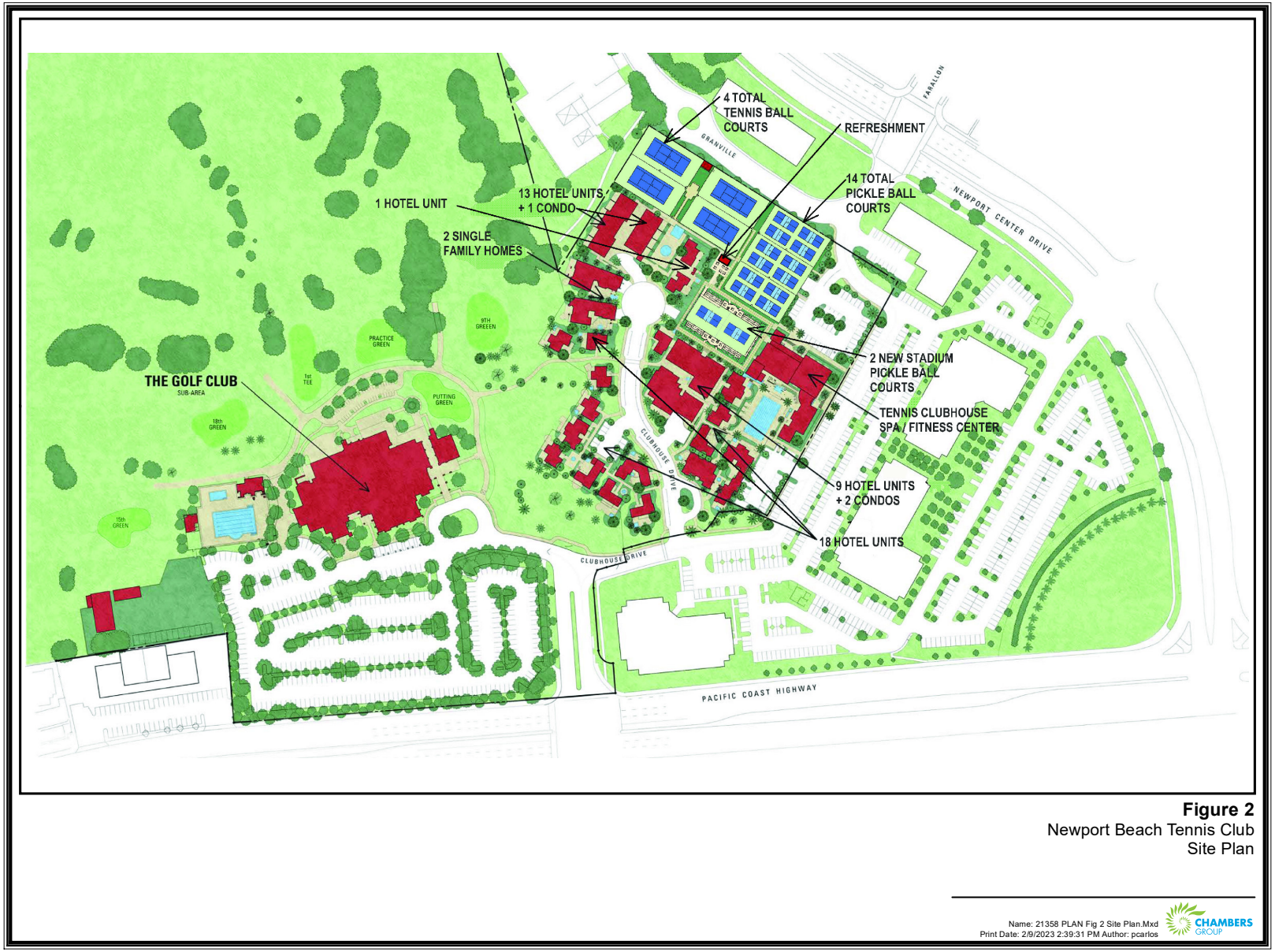

Figure 2
Newport Beach Tennis Club
Site Plan

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Figure 3 – Landscape Plan

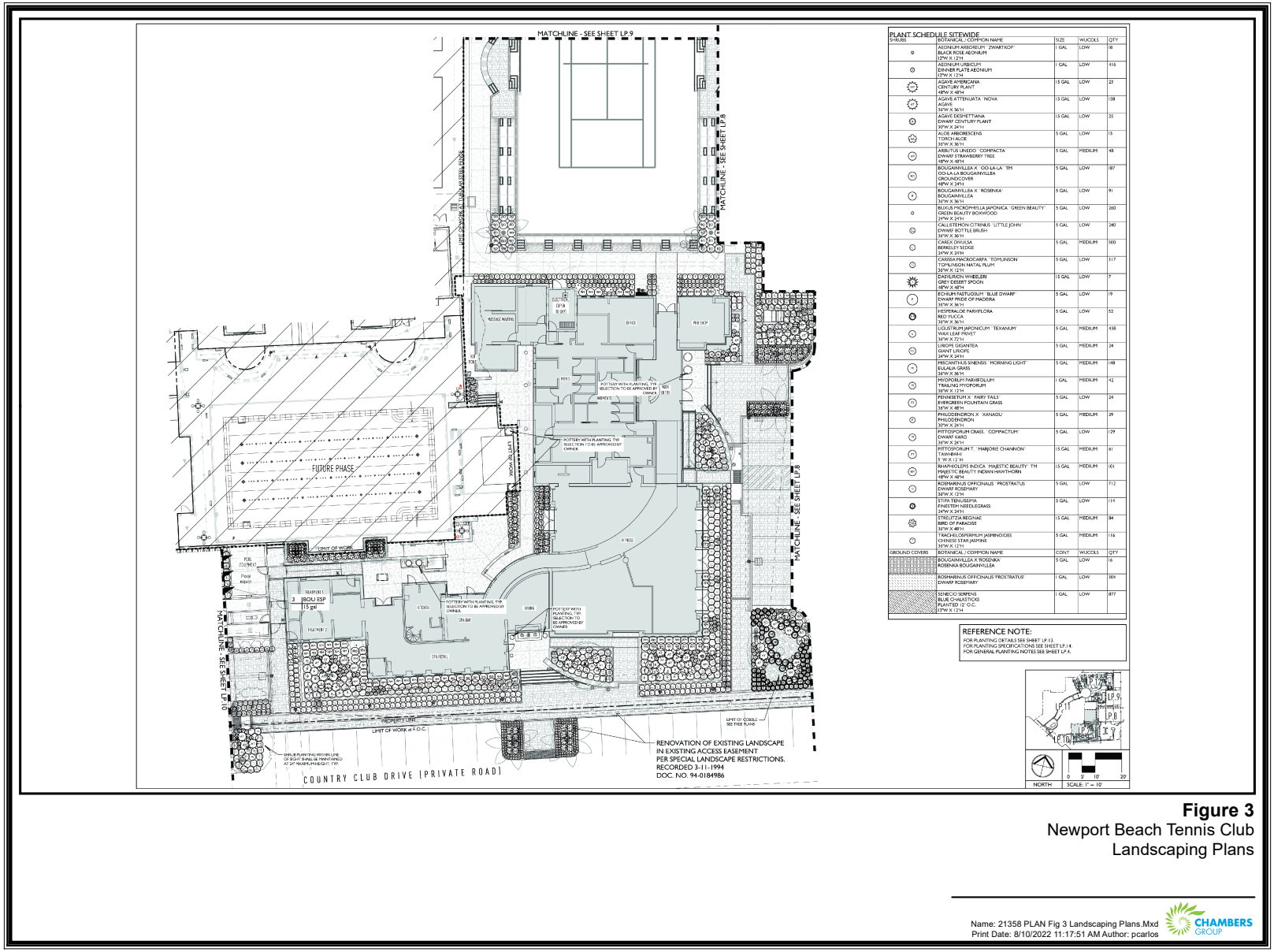

Figure 3
Newport Beach Tennis Club
Landscaping Plans

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Figure 4 – Tract Map page 1

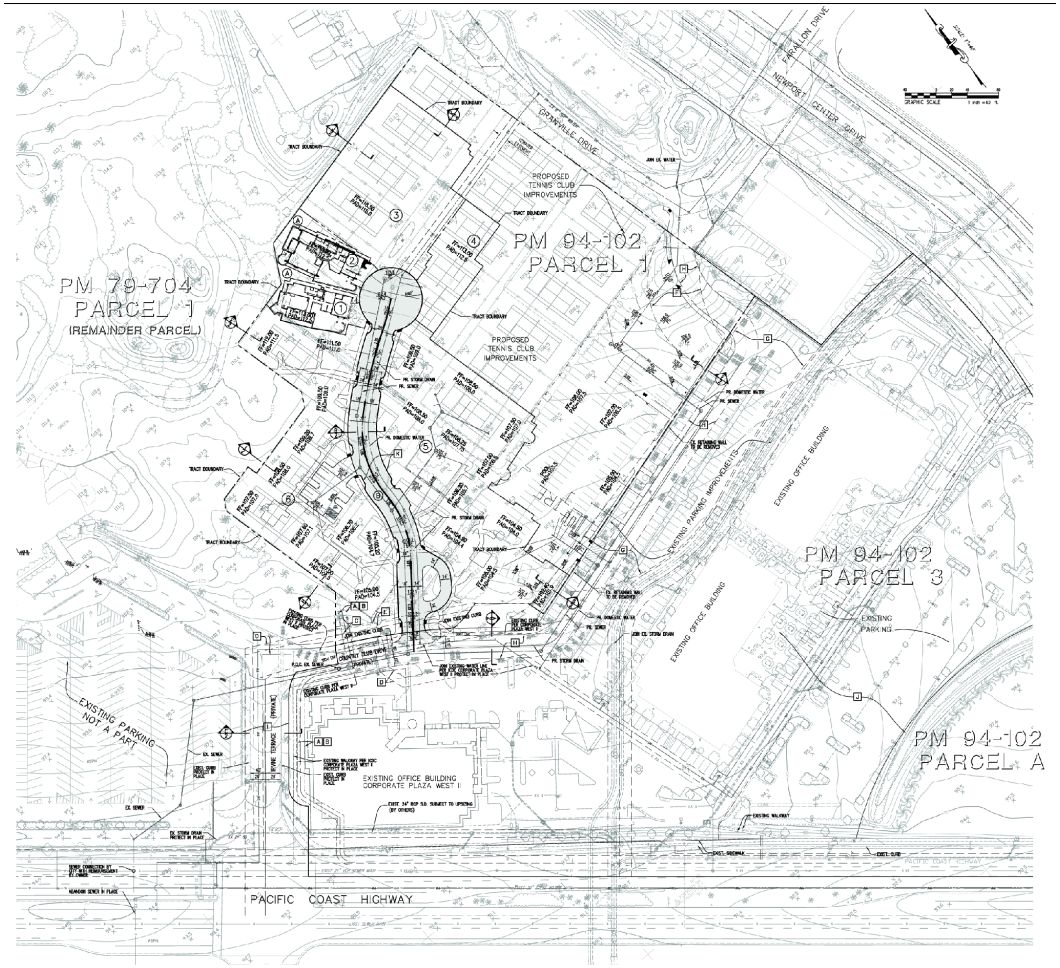

Figure 4
Newport Beach Tennis Club
Tract Map

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Figure 5 – Tract Map page 2

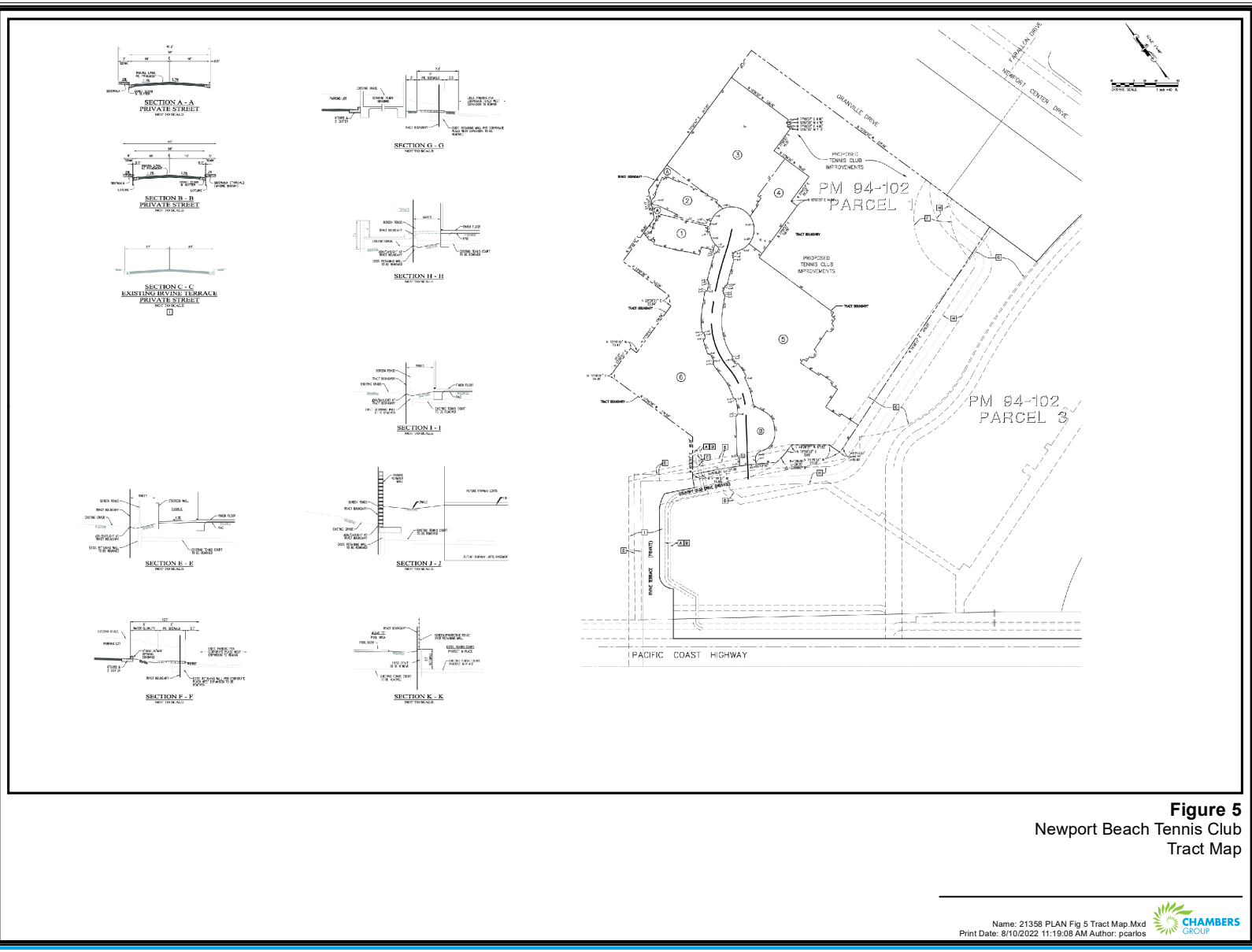

Figure 5
Newport Beach Tennis Club
Tract Map

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2.4 REQUIRED PERMITS AND APPROVALS

- California Coastal Commission (Local Coastal Program Implementation Plan Amendment)
- California Regional Water Quality Control Board (Section 401 Permit)

SECTION 3.0 – ENVIRONMENTAL DETERMINATION

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would potentially be affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklists on the following pages. For each of the potentially affected factors, mitigation measures are recommended that would reduce the impacts to less than significant levels.

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

3.2 DETERMINATION

On the basis of this initial evaluation:

1. I find that the project **could not** have a new significant effect on the environment, and an **ADDENDUM** will be prepared. ☒
2. 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. ☐
3. I find the proposed project **may have a significant effect** on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required. ☐
4. 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. ☐
5. 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. ☐

Signature	Date
David Lee	Senior Planner
Name	Title

SECTION 4.0 – 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. 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 offsite as well as onsite, 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 substantial evidence exists that an effect may be significant. If one or more "Potentially Significant Impact" entries are marked when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than 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 analyses may be cross-referenced).

5. Earlier analyses 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. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and

    b. the mitigation measure identified, if any, to reduce the impact to less than significant.

    *Note: Instructions may be omitted from final document.

SECTION 5.0 – CHECKLIST OF ENVIRONMENTAL ISSUES

5.1 AESTHETICS

1.	AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
(b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
(c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
(d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

5.1.1 Impact Analysis

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

2010 MND Determination: Less than Significant Impact. The Approved Project site is located adjacent to the Corporate Plaza West office development and north of Coast Highway. Newport Center Drive from Newport Center Drive east/west to Farallon Drive is designated as a Coastal View Road. Although Coast Highway is not designated as a Coastal View Road between Jamboree Road and MacArthur Boulevard, a public viewpoint is located within Irvine Terrace Park, which is located south of that arterial and south of the subject property in the Corona del Mar service area (City 2010). Policies NR 20.2 and 20.3 in the Natural Resources Element of the Newport Beach General Plan are intended to protect and enhance public view corridors. Specifically, new development must restore and enhance the visual quality and protect and restore public views. Similar policies in the Coastal Land Use Plan (CLUP) are also intended to ensure that coastal views and development within the coastal zone are protected and enhanced.

The Newport Beach Country Club Planned Community Plan (PC-47) has been adopted as part of Approved Project to include development standards to "…ensure harmony and continuity of the design parameters that are respectful of the properties of its California coastal heritage." and Guidelines have been established in the PC-47 regulations to address building mass, scale, materials, landscape treatment, and community design to ensure compatibility (City 2010).

The 2010 MND found that the design and implementation of the Approved Project would not result in a substantial visual impact as the Approved Project would include landscaping, setbacks, and walls to screen views (City 2010).

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project site remains same location as the Approved Project site. Views from the public viewpoint in Irvine Terrace Park are primarily oriented to the south to the harbor and ocean; however, with the integration of the landscaping and setbacks along Coast Highway, views from the vantage and inland into Fashion Island the adjacent areas would not be adversely affected. Significant visual impacts from the segment of Newport Center Drive designated as a Coastal View Road would not occur because adequate landscape materials, setbacks, and building heights have been integrated into the Proposed Project design to enhance and protect views as intended by the applicable General Plan policies. In addition, mechanical and trash enclosures as well as pool/spa equipment, tennis courts, pickleball courts, and ground mounted air conditioning compressor units will be screened by walls and/or landscaping.

As part of the Proposed Project, PC-47 will be amended to reflect the proposed structures which will range from 31 feet for the hotel rooms, up to 46 feet for the loft buildings, 39 feet for the detached residential units, and 30 feet for the tennis clubhouse. The proposed amendment meets the intent of the approved PC-47 and within the maximum building height of 50 feet. The proposed residential units (detached and attached) are designed to be compatible with the character of the residential development to the north along Granville. In addition, landscaping will be provided in all areas not devoted to structures, parking, and driveways, which consists of a combination of trees, shrubs, groundcover, and hardscape improvements. The architectural style for the Proposed Project remains classical California Mediterranean, which is consistent and compatible with the surrounding development. The design and implementation of the Proposed Project will not result in a substantial visual impact. Therefore, no significant impacts are anticipated, no major revisions to the 2010 MND will be required, and no mitigation measures are required.

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the Approved Project site was determined to have been substantially altered in order to accommodate the existing land uses. The site was determined to generally be devoid of significant natural features such as rock outcroppings and/or native or important habitat. The existing trees and vegetation that are located on the site are introduced landscape species; no historic buildings exist on the site and the site is not located adjacent to a State scenic highway.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, the Proposed Project site is currently developed with a private tennis club consisting of 16 tennis courts, 31 interim-use pickleball courts, a 3,725 square-foot tennis clubhouse and 125 surface parking spaces; and all work will be completed within the boundaries of the existing tennis and pickleball club facilities. As a result, the site has been substantially altered in order to accommodate the existing land uses. The site is generally devoid of significant natural features such as rock outcroppings and/or native or sensitive habitat. The existing trees and vegetation that are located on the site are introduced landscape species; no historic buildings exist on the site and the site is not located adjacent to a State scenic highway (California Department of Transportation [Caltrans] 2022). Therefore, Proposed Project implementation will not adversely affect scenic resources within a State scenic highway. No significant impacts are anticipated, and no major revisions to the 2010 MND will be required.

c) *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Original MND Determination: Less than Significant Impact. The Approved Project included the demolition of several existing structures (tennis clubhouse, tennis courts, etc.) and the construction of a new tennis clubhouse and related facilities, a hotel development and five single-family homes. As indicated previously, the subject property is not designated as an important visual resource. Nonetheless, the PC-47 regulations prescribed development standards that address building height, setbacks, landscaping, lighting, architectural design, and other elements to ensure that the aesthetic character of the site and surrounding area are not adversely affected. The proposed tennis clubhouse would have a maximum height of 30 feet. The maximum building height of the detached single-family residential homes is 39 feet, as prescribed in the PC-47 regulations. The land uses have been designed within the property to be visually and aesthetically compatible with each other. Although East Coast Highway is not designated as a scenic corridor by the City, the wide, matured landscape setback is already in place to provide a significantly wider buffer for the residents of Irvine Terrace with the Project site's setback approximately 285 feet from East Coast Highway. No significant impacts were anticipated, and no mitigation measures were required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project implementation includes the demolition of several existing structures (tennis clubhouse, interim-use pickleball courts, and tennis courts), and the construction of a new tennis clubhouse, tennis courts, stadium pickleball courts, hotel, and residential uses. As indicated previously, the subject property is not designated as an important visual resource. Nonetheless, the PC-47 regulations prescribed development standards that address building height, setbacks, landscaping, lighting, architectural design, and other elements to ensure that the aesthetic character of the site and surrounding area are not adversely affected (City 2010). The addition of 14 pickleball courts (including one stadium consisting of two pickleball courts), additional hotel rooms, the ancillary hotel uses, and change in residential uses will not result in new significant impacts. Although the three condominiums would be located above hotel rooms within the loft buildings and would results in a building height increase of 7 feet (from 39 to 46 feet), the additional height would still be within the maximum permitted height of 50 feet per PC-47 standards. No significant impacts are anticipated and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant Impact. The previously Approved Project property is characterized by lighting that illuminates the surface parking lot that served the existing tennis facilities. In addition, lighting is also associated with existing tennis courts and security lighting for the parking lot and structures (City 2010). Lighting required to illuminate the proposed parking lots for the tennis Club facilities will comply with standards established by the Newport Beach Municipal Code. Proposed lighting will not spill onto adjacent properties. The residential units and hotel rooms located adjacent to the tennis courts will be screened with a 10-foot windscreen chain link fence. Although it is anticipated that the lighting will be energy efficient and will also be shielded or recessed

so that direct glare and reflections are contained within the boundaries of the property, the applicant will be required to prepare a final lighting/photometric plan to ensure that lighting on site meets the City's requirements. In addition, tennis court lights will be turned off at 10:00 p.m. Additionally the Approved Project was required to implement the following standard condition (SC):

SC-1 Prior to the issuance of building permits, the applicant shall prepare a photometric study in conjunction with a final lighting plan for approval by the Planning Division. The site shall not be excessively illuminated based on the luminance recommendations of the Illuminating Engineering Society of North America, or, if in the opinion of the Planning Director, the illumination creates an unacceptable negative impact on surrounding land uses or environmental resources. The Planning Director may order the dimming of light sources or other remediation upon finding that the site is excessively illuminated.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project implementation, in comparison to the Approved Project, will result in the reduction of three tennis courts (4 courts total), 14 additional pickleball courts, 14 additional hotel rooms, ancillary hotel uses, and a change in residential types from what was analyzed in the Tennis Club portion of the 2010 MND. Lighting will also be provided for the same purpose as currently exists (i.e., security and parking lot illumination) and would be similar to the previously Approved Project. Lighting will also be provided for the same purpose as currently exists (i.e., security and parking lot illumination), and the same standard condition would be implemented. Therefore, no significant impacts are anticipated, no major revisions to the 2010 MND will be required, and no mitigation measures are required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to visual resources and aesthetics would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.2 AGRICULTURE & FORESTRY RESOURCES

2.	**AGRICULTURE & FOREST RESOURCES. (In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:**	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 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 the conversion of forest land to non-forest use?	☐	☐	☐	☒

5.2.1 Impact Analysis

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?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to farmland. No Prime Farmland, Farmland of State or Local Importance, or Unique Farmland occurs within or in the vicinity of the site. The site and adjacent areas are designated as "Urban and Built-up Land" and "Other Land" on the Orange County Important Farmland Map. Further, neither the site nor the adjacent areas are designated as prime,

unique, or important farmlands by the State Resources Agency or by the Newport Beach General Plan (City 2010). No impact would occur.

Proposed Project Analysis and Significance Determination: No Impact. No Prime Farmland, Farmland of State or Local Importance, or Unique Farmland occurs within or in the vicinity of the; and no change has occurred over this period (California Department of Conservation [DOC] 2022a). The Project site and adjacent areas are designated as "Urban and Built-up Land" and "Other Land" on the Department of Conservation Important Farmland Finder map (DOC 2022a). Further, neither the site nor the adjacent areas are designated as prime, unique, or important farmlands by the State Resources Agency or by the Newport Beach General Plan. Therefore, no impact on significant farmlands would occur with the Proposed Project, no major revisions to the 2010 MND will be required, and no mitigation measures are required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result impacts to Williamson Act contracts or zoning. The Newport Beach General Plan, Land Use Element designates the site as "Parks and Recreation" (PR) and "Mixed Use – Horizontal" (MU-H3) and the zone designation for the site is "PC-47." (City 2010) Therefore, there is no conflict with zoning for agricultural use, and the property and surrounding properties are not under a Williamson Act contract.

Proposed Project Analysis and Significance Determination: No Impact. The Newport Beach General Plan, Land Use Element designates the site as "Parks and Recreation" (PR) and "Mixed Use - Horizontal" (MU-H3) and the zone designation for the site is "PC-47" (City 2010). Therefore, there is no conflict with zoning for agricultural use, and the property and surrounding properties are not under a Williamson Act contract (DOC 2022b). No significant impacts are anticipated, and no mitigation measures are required.

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))?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to forest land. The Project site is neither zoned nor designated as forest land. The site was developed as a private tennis club (City 2010). Project implementation would not result in the conversion of any forest land subject to the Public Resources Code.

Proposed Project Analysis and Significance Determination: No Impact. Conditions on site remain the same as the 2010 MND, and the Project site is neither zoned nor designated as forest land (City 2010). The site is currently developed as a private tennis and pickleball club. Project implementation would not result in the conversion of any forest land subject to the Public Resources Code (DOC 2022a). No significant impacts are anticipated, no major revisions to the 2010 MND will be required, and no mitigation measures are required.

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

2010 MND Determination: No Impact. As indicated above, the site is currently developed and is devoid of forest resources (City 2010). Project implementation will not result in the site's conversion of forest land to non-forest uses. No impact would occur.

Proposed Project Analysis and Significance Determination: No Impact. As indicated above, the subject property is currently developed and does not include any forest resources, which is the same as the conditions in the 2010 MND (City 2010)**.** Project implementation will not result in the site's conversion of forest land to non-forest uses. No significant impacts are anticipated, no major revisions to the 2010 MND will be required, and no mitigation measures are required.

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 the conversion of forest land to non-forest use?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to the conversion of land. The site is not being used for either agricultural or forest land purposes and, as indicated previously, is not designated as agricultural or forest land (City 2010). The subject property and the area surrounding the site are developed with a variety of residential, professional office, retail, public facilities, and recreational uses. Therefore, no agricultural or forest uses on the site or within the site's vicinity would be converted to non-agricultural or non-forest use.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND, the subject property is not being used for either agricultural or forest land purposes and, as indicated previously, is not designated as agricultural or forest land (City 2010). The subject property and the area surrounding the site are developed with a variety of residential, professional office, and recreational uses. Therefore, no agricultural or forest uses on the site or within the site's vicinity would be converted to non-agricultural or non-forest use. No significant impacts are anticipated no major revisions to the 2010 MND will be required, and no mitigation measures are required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, no impacts to farmlands and timberlands similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.3 AIR QUALITY

3.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(b)	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?	☐	☐	☒	☐
(c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

5.3.1 Environmental Setting

The Proposed Project site is located in the City of Newport Beach that is within the County of Orange. The Proposed Project site is located within the South Coast Air Basin (Air Basin), and air quality regulation is administered by the South Coast Air Quality Management District (SCAQMD). The SCAQMD implements the programs and regulations required by the federal and state Clean Air Acts.

Atmospheric Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographical features. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with physical features of the landscape to determine their movement and dispersal, and consequently, their effect on air quality. The combination of topography and inversion layers generally prevents dispersion of air pollutants in the Air Basin.

The climate of the Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific, which results in a mild climate, tempered by cool sea breezes. Although the Air Basin has a semiarid climate, the air near the surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the basin by offshore winds, the ocean effect is dominant. Periods of heavy fog are frequent; and low stratus clouds, often referred to as "high fog" are a characteristic climate feature. Average temperatures for Newport Beach Harbor[1], range from an average low of 47 degrees Fahrenheit (°F) in January to an average high of 73 °F in August. Rainfall averages approximately 11 inches a year with almost all annual rainfall coming from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

Winds are an important parameter in characterizing the air quality environment of a project site because they determine the regional pattern of air pollution transport and control the rate of dispersion near a

[1] *Data from https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6175 Accessed August, 2022.*

source. Daytime winds in the Air Basin are usually light breezes from off the coast as air moves regionally onshore from the cool Pacific Ocean. These winds are usually the strongest in the dry summer months. Nighttime winds in the Air Basin result mainly from the drainage of cool air off the mountains to the east, and they occur more often during the winter months and are usually lighter than the daytime winds. Between the periods of dominant airflow, periods of air stagnation may occur, both in the morning and evening hours. Whether such a period of stagnation occurs is one of the critical determinants of air quality conditions on any given day.

During the winter and fall months, surface high-pressure systems north of the Air Basin, combined with other meteorological conditions, can result in very strong winds from the northeast called "Santa Ana Winds." These winds normally have durations of a few days before predominant meteorological conditions are reestablished. The highest wind speed typically occurs during the afternoon due to daytime thermal convection caused by surface heating. This convection brings about a downward transfer of momentum from stronger winds aloft. It is not uncommon to have sustained winds of 60 miles per hour with higher gusts during a Santa Ana Wind.

Regulatory Setting

The Proposed Project site lies within the Air Basin, which is managed by the SCAQMD. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead. The CAAQS also set standards for sulfates, hydrogen sulfide, and visibility.

The SCAQMD, the agency principally responsible for reducing air pollution in the Air Basin, has adopted a sequence of Air Quality Management Plans (AQMPs) that provide measures to reduce emissions in order to meet the NAAQS and CAAQS. The 2016 AQMP was adopted by the SCAQMD Board on March 3, 2016 and was adopted by California Air Resources Board (CARB) on March 23, 2017 for inclusion into the State Implementation Plan. The 2022 AQMP was adopted by the SCAQMD Governing Board on December 2, 2022, and has been submitted to the ARB for adoption before submittal to the U.S. EPA for final approval, which are anticipated to occur sometime this year. After to 2022 AWMP has been adopted by CARB and U.S. EPA, the 2022 AQMP will be incorporated into the State Implementation Plan (SIP). The 2022 AQMP establishes actions and strategies to reduce ozone levels to the U.S. EPA 2015 ozone standards of 70 ppb by 2037. The 2022 AQMP promotes extensive use of zero emission technologies across all stationary and mobile sources coupled with rules and regulations, investment strategies, and incentives (AQMD 2022).

Areas are classified under the Federal Clean Air Act as either "attainment" or "nonattainment" areas for each criteria pollutant, based on whether the NAAQS have been achieved or not. Attainment relative to the state standards is determined by the CARB. The Air Basin has been designated by the United States Environmental Protection Agency (USEPA) as a nonattainment area for O_3 and $PM_{2.5}$. Currently, the Air Basin is in attainment with the NAAQS for CO, SO_2, NO_2, and PM_{10}. The Orange County portion of the Air Basin is in attainment with the NAAQS for lead.

The Air Basin has been designated by CARB as a nonattainment area for ozone, NO_2, PM_{10}, and $PM_{2.5}$. Currently, the Air Basin is in attainment with the state ambient air quality standards for CO, SO_2, and sulfates and is unclassified for visibility-reducing particles and hydrogen sulfide. The adopted AQMPs provide measures to meet the state standards for ozone, NO_2, PM_{10}, and $PM_{2.5}$. Table 5-1 presents the designations and classifications applicable to the Proposed Project area.

Table 5-1 – Designations/Classifications for the Project Area

Pollutant	Averaging Time Standard	National Standards Attainment Date[1]	California Standards[2]
1979 1-Hour Ozone (O_3)[3]	1-Hour (0.12 ppm)	Nonattainment (Extreme) 2/6/2023	Nonattainment
1997 8-Hour Ozone (O_3)[4]	8-Hour (0.08 ppm)	Nonattainment (Extreme) 6/15/2024	
2008 8-Hour Ozone (O_3)	8-Hour (0.075 ppm)	Nonattainment (Extreme) 7/20/2032	
2015 8-Hour Ozone (O_3)	8-Hour (0.070 ppm)	Nonattainment (Extreme) 8/3/2038	
Carbon Monoxide (CO)	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance) 6/11/2007 (attained)	Maintenance
Nitrogen Dioxide (NO_2)[5]	1-Hour (100 ppb)	Unclassifiable/Attainment Attained	Attainment
	Annual (0.053 ppm)	Attainment (Maintenance) 9/22/1998	
Sulfur Dioxide (SO_2)[6]	1-Hour (75 ppb)	Designation Pending/ Pending	Attainment
	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/Attainment 3/19/1979 (attained)	
Particulate Matter (PM_{10})	24-Hour (150 µg/m^3)	Attainment (Maintenance) 7/26/2013	Nonattainment
Particulate Matter ($PM_{2.5}$)	24-Hour (35 µg/m^3)	Nonattainment (Serious) 12/31/2019	Nonattainment
	1997 Annual (15.0 µg/m^3)	Attainment 8/24/2016	
	Annual (12.0 µg/m^3)	Nonattainment 12/31/2025	
Lead (Pb)	3-Months Rolling (0.15 µg/m^3)	Nonattainment (Partial)[7] 12/31/2015	Nonattainment

[1] Obtained from http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=14

[2] Obtained from http://www.arb.ca.gov/desig/adm/adm.htm.

[3] 1-hour O_3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data has some continuing obligations under the former standard.

[4] 1997 8-hour O_3 standard (0.08 ppm) was reduced (0.075 ppm) in 2008; the 1997 O_3 standard and most related implementation rules remain in place until the 1997 standard is revoked by USEPA.

[5] New NO_2 1-hour standard, effective August 2, 2010; attainment designations January 20, 2012; annual NO_2 standard retained.

[6] The 1971 annual and 24-hour SO_2 standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after USEPA promulgates area designations for the 2010 SO_2 1-hour standard. Area designations are expected in 2012, with Basin designated Unclassifiable/Attainment

[7] Partial Nonattainment designation – Los Angeles County portion of Basin only. Expect redesignation to attainment based on current monitoring data.

Monitored Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Air Basin provided in the Final 2016 AQMP, March 2017, indicate that, collectively, mobile sources account for 33 percent of the volatile organic compounds (VOCs), 88 percent of nitrogen oxide (NOx) emissions, and 35 percent of directly emitted $PM_{2.5}$, with another 10 percent of $PM_{2.5}$ from road dust. However, the mobile source regulations currently in place are anticipated to reduce the share of emissions currently produced by mobile sources and by 2031 mobile source emissions are anticipated to create 14 percent of VOC emissions, 30 percent of NOx emissions and 23 percent of $PM_{2.5}$ emissions with another 14 percent of $PM_{2.5}$ from road dust.

The SCAQMD has divided the Air Basin into 38 air monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in Air Monitoring Area 18, which covers the coastal portion of Orange County, from Seal Beach to Newport Beach. Since not all air monitoring stations measure all of the tracked pollutants, the data from the following two monitoring stations, listed in the order of proximity to the Project site have been used: Mission Viejo Monitoring Station (Mission Viejo Station) and Anaheim – Pampas Lane Monitoring Station (Anaheim Station).

The Mission Viejo Station is located approximately 12 miles east of the Project site at 26081 Via Pera, Mission Viejo, and the Anaheim Station is located approximately 15 miles north of the Project site at 1630 W Pampas Lane, Anaheim. Since historical concentrations of carbon monoxide were found to be well below state and federal limits throughout the Air Basin, SCAQMD discontinued monitoring of carbon monoxide levels on March 31, 2013. It should be noted that due to the air monitoring stations distances from the Proposed Project site, recorded air pollution levels at the air monitoring stations reflect with varying degrees of accuracy local air quality conditions at the Proposed Project site. Table 5-2 presents the composite of gaseous pollutants monitored from 2015 through 2017.

Table 5-2 – Ambient Air Quality Monitoring Summary

Air Pollutant	2019	2020	2021
Ozone (O_3)[1]			
Max 1 Hour (ppm)	**0.106**	**0.171**	**0.105**
Days > CAAQS (0.09 ppm)	**3**	**20**	**2**
Max 8 Hour (ppm)	**0.087**	**0.122**	**0.081**
Days > NAAQS (0.070 ppm)	**11**	**32**	**8**
Days > CAAQS (0.070 ppm)	**11**	**34**	**8**
Nitrogen Dioxide (NO_2) [2]			
Max 1 Hour (ppb)	59.8	70.9	67.1
Days > NAAQS (100 ppb)	0	0	0
Days > CAAQS (180 ppb)	0	0	0
Particulate Matter (PM_{10})[1]			
Max Daily California Measurement	44.2	55.1	34.6
Days > NAAQS (150 µg/m^3)	0	0	0
Days > CAAQS (50 µg/m^3)	**0**	2	**0**
State Average (20 µg/m^3)	16.7	ND	15.8

Air Pollutant	2019	2020	2021
Particulate Matter ($PM_{2.5}$) [1]			
Max Daily National Measurement	20.8	46.6	32.6
Days > NAAQS (35 µg/m^3)	**0**	6	**0**
National Average (12 µg/m^3)	7.1	710.3	9.3
State Average (12 µg/m^3)	ND	9.3	8.3

Abbreviations:
> = exceed ppm = parts per million ppb = parts per billion µg/m^3 = micrograms per cubic meter
CAAQS = California Ambient Air Quality Standard NAAQS = National Ambient Air Quality
ND = Insufficient or No Data **Bold** = exceedance
[1] Measurement taken from Mission Viejo Station
[2] Measurement taken from Anaheim Station
Source: http://www.arb.ca.gov/adam/

California Emissions Estimator Model™ Employed To Estimate Air Quality Emissions

In May 2021, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association and other California air districts, released the latest version of the California Emissions Estimator Model™ (CalEEMod) v2020.4.0. The purpose of this model is to more accurately calculate construction-source and operational-source criteria pollutants (NOx, VOCs, PM_{10}, $PM_{2.5}$, SOx, and CO) and Greenhouse Gas (GHG) emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this Proposed Project to determine construction and operational impacts related to the Proposed Project. Outputs from the model runs are provided in Appendix A.

5.3.2 Impact Analysis

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result significant impacts to air quality plans. The previously approved Project complied with the 2007 AQMP. The 2007 AQMP recognizes the interaction between photochemical processes that create both ozone (0_3) and the smallest airborne particulates ($PM_{2.5}$). The 2007 AQMP is therefore a coordinated plan for both pollutants. Key emissions reductions strategies in the updated air quality plan include:

- Ultra-low emissions standards for both new and existing sources (including on-and-offroad heavy trucks, industrial and service equipment, locomotives, ships, and aircraft).
- Accelerated fleet turnover to achieve benefits of cleaner engines.
- Reformulation of consumer products.
- Modernization and technology advancements from stationary sources (refineries, power plants, etc.)

It was concluded that the Approved Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing "general" development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment, and land use is the primary yardstick by which impact significance of master planned growth is determined. If a given project incorporates any available transportation control measures that can be implemented on a

project-specific basis, and if the scope and phasing of a project are consistent with adopted forecasts as shown in the Regional Comprehensive Plan, then the regional air quality impact of project growth would not be significant because of planning inconsistency. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the Approved Project was therefore analyzed on a project-specific basis.

A consistency review determined the following:

Indicator 1 Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the Ambient Air Quality Standards (AAQS)or interim emission reductions in the AQMP.

The South Coast Air Basin (SCAB) is designated by the state and USEPA as non-attainment for 0_3, PM_{10}, and $PM_{2.5}$. SCAQMD developed regional emissions thresholds to determine whether or not a project would contribute to air pollutant violations. If a project exceeds the regional air pollutant thresholds, then the Project would substantially contribute to air quality violations in the SCAB. In addition, the Approved Project would also contribute to air pollutant violations if localized emissions result in an exceedance of the AAQS. Neither short-term nor long-term emissions generated by the Approved Project exceed the SCAQMD thresholds for regional emissions (as shown in detail below) and would therefore contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP. Consequently, the Project would not be consistent with the AQMP under the first indicator.

Indicator 2 Whether the project would exceed the assumptions in the AQMP. The AQMP strategy is, in part, based on projections from local general plans.

The current zoning designation permits development through a planned community development plan. Therefore, development of new land uses and their associated air pollutant emissions would be accounted for in the assumptions of the AQMP. Furthermore, the purpose and intent of a "Planned Community" is to encourage mixed-use development and integration of residential, recreational, commercial, and retail uses. Because the Approved Project would accommodate a mix of recreational and residential uses within walking distance, there would be a limited reduction in vehicle trips for residents within the Project site and surrounding area for commercial retail and recreational needs. This reduction in trips would likewise result in a reduction in air pollution. Consequently, implementation of the Approved Project would not conflict with the AQMP under the second indicator. Therefore, a less than significant impact would occur.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. CEQA requires a discussion of any inconsistencies between Proposed Project and applicable general plans (GPs) and regional plans (CEQA Guidelines Section 15125). The regional plan that applies to the Proposed Project includes the SCAQMD AQMP. Therefore, this section discusses any potential inconsistencies of the Proposed Project with the AQMP and the City of Newport Beach General Plan.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the Proposed Project would interfere with the region's ability to comply with federal and State air quality standards. If the decision-makers determine that the Proposed Project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A Proposed Project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP in 2010 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

Criterion 1 – Increase in the Frequency or Severity of Violations?

Based on the air quality modeling analysis contained in this Air Analysis, it was determined that short-term construction impacts and long-term operations impacts would not result in significant impacts based on the SCAQMD regional, local, and toxic air contaminant thresholds of significance.

Therefore, the Proposed Project is not expected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

Criterion 2 – Exceed Assumptions in the AQMP?

Consistency with the AQMP assumptions is determined by performing an analysis of the Proposed Project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the Proposed Project are based on the same forecasts as the AQMP. The AQMP is developed through use of the planning forecasts provided in the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal), adopted September 3, 2020, and the *2019 Federal Transportation Improvement* Program (2019 Federal Transportation Improvement Program [FTIP]), adopted September 2018. The Connect SoCal is a major planning document for the regional transportation and land use network within southern California. The Connect SoCal is a long-range plan that is required by federal and State requirements placed on Southern California Association of Governments (SCAG) and is updated every four years. The 2019 FTIP provides long-range planning for future transportation improvement projects that are constructed with State and/or federal funds within southern California. Local governments are required to use these plans as the basis of their plans for the purpose of consistency with applicable regional plans under CEQA.

The Proposed Project site is currently designated as Mixed-Use Horizontal 3/Parks and Recreation (MU-H3/PR) in the General Plan and is zoned PC-47 (Newport Beach Country Club Planned Community), which allow for the proposed land uses. The Proposed Project is consistent with the current land use designations and would not result in a change in land use designation; however, the Proposed Project requires a general plan amendment and zone change (PC-47) to increase number of hotel units, reduce the number of tennis courts, and allow for the provision of pickleball courts and ancillary use square footage. In addition, Project construction would be required to comply with SCAQMD Rules and Regulations, including Rules 402 and 403 that control the emissions of air contaminants, odors, and fugitive dust. Therefore, based on the above, the Proposed Project is not anticipated to exceed the AQMP assumptions for the Proposed Project site and is found to be consistent with the AQMP for the second criterion.

Based on the discussion above, the Proposed Project will not result in an inconsistency with the SCAQMD AQMP. Accordingly, the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan.

b) *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?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in a significant increase in criteria pollutants. The previously Approved Project was consistent with the relevant policies and requirements established by the Land Use Element. Approval of the Approved Project was found to not result in any land use conflicts with existing, surrounding development. It was concluded that neither construction nor operational air emissions would exceed significance thresholds established by the SCAQMD. These thresholds were developed to provide a method of assessing a project's individual impact significance, and also to determine whether the Project's impacts could be cumulatively considerable. The Approved Project would not, therefore, result in a cumulatively considerable net increase of any criteria pollutant. Since the South Coast Air Basin is in non-attainment with respect to ozone and PM_{10}, and the construction emissions would add to the regional burden of these pollutants, compliance with a vigorous set of air pollution control measures related to dust control, paint emissions etc.) is required to ensure that projects do not contribute directly to an air quality violation.

The following measures were included to reduce air pollution associated with the Approved Project:

- Apply soil stabilizers to inactive areas.
- Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces 3 times/day.
- Cover all stockpiles with tarps.
- Replace ground cover in disturbed areas as soon as feasible.
- Require 90-day low-NO_x tune-ups for off-road equipment.
- Limit allowable idling to 5 minutes for trucks and heavy equipment.
- Utilize equipment whose engines are equipped with diesel oxidation catalysts if available.
- Utilize diesel particulate filter on heavy equipment where feasible.

- Use low VOC coatings and high pressure-low volume

The Approved Project, however, replaced an existing facility and decreases existing tennis court facilities and replaced them with the hotel rooms (Bungalows) and residential homes (Villas). With respect to operational emissions, it is anticipated that 389 fewer daily trips will be generated as a result of the Approved Project. It was concluded that operational emissions would not exceed local thresholds and would result in a decrease in emissions. Additionally, the standard conditions below would be implemented in accordance with City regulations. Therefore, a less than significant impact would occur.

SC-2 Adherence to SCAQMD Rule 402, which prohibits air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property to be emitted within the SCAB.

SC-3 Adherence to SCAQMD Rule 403, which sets requirements for dust control associated with grading and construction activities.

SC-4 Adherence to SCAQMD Rules 431.1 and 431.2, which require the use of low sulfur fuel for stationary construction equipment.

SC-5 Adherence to SCAQMD Rule 1108, which sets limitations on Reactive Organic Gases (ROG) content in asphalt.

SC-6 Adherence to SCAQMD Rule 1113, which sets limitations on ROG content in architectural coatings.

SC-7 Adherence to Title 24 energy-efficient design requirements as well as the provision of window glazing, wall insulation, and efficient ventilation methods in accordance with the requirements of the California Building Code.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or State ambient air quality standard. As shown above in Table 5-1, the Proposed Project area is designated as a federal and/or State nonattainment area for ozone and PM2.5. To estimate if the Proposed Project may adversely affect the air quality in the region, the SCAQMD has prepared CEQA Air Quality Handbook (SCAQMD 1993) to provide guidance to those who analyze the air quality impacts of proposed projects. The SCAQMD CEQA Handbook states that any project in the Air Basin with daily emissions that exceed any of the identified significance thresholds should be considered as having an individually and cumulatively significant air quality impact. For the purposes of this air quality impact analysis, a regional air quality impact would be considered significant if emissions exceed the SCAQMD significance thresholds identified in Table 5-3.

Table 5-3 – Regional Thresholds of Significance

Activity	Pollutant Emissions (Pounds/Day)[1]						
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$	Lead
Construction	75	100	550	150	150	55	3
Operation	55	55	550	150	150	55	3

Source: SCAQMD, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

Air emissions related to construction of the Proposed Project may have the potential to exceed the State and federal air quality standards in the Project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the Air Basin. In order to assess local air quality impacts, the SCAQMD has developed LSTs to assess the Project-related air emissions in the Project vicinity. SCAQMD has also provided Final Localized Significance Threshold Methodology (LST Methodology), July 2008, which details the methodology to analyze local air emission impacts. The LST Methodology found that the primary emissions of concern are NO_2, CO, PM10, and PM2.5.

The LST Methodology provides look-up tables with different thresholds based on the location and size of the Project site and distance to the nearest sensitive receptors. The look-up tables provide 1-acre, 2-acre, and 5-acre project sizes. Since the Proposed Project would disturb up to 5.6 acres, as such the 5-acre project size thresholds were utilized. As detailed above, the Proposed Project site is located in Air Monitoring Area 18, which covers north coastal Orange County. The nearest sensitive receptors are homes located as near 50 feet (15 meters) to the north of the proposed improvements on the Project site. According to LST Methodology, any receptor located closer than 25 meters (82 feet) shall be based on the 25-meter thresholds. Table 5-4 below shows the LSTs for NOx, CO, PM_{10} and $PM_{2.5}$ for both construction and operational activities.

Table 5-4 – Local Thresholds of Significance

Activity	Pollutant Emissions (Pounds/Day)			
	NOx	CO	PM_{10}	$PM_{2.5}$
Construction	197	1,711	14	9
Operation	197	1,711	4	2

[1] The nearest sensitive receptors are homes located as near as 50 feet (15 meters) north of the proposed improvements. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.

Source: SCAQMD's Mass Rate Look-Up Tables for five acres in Air Monitoring Area 18 found at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2

Construction Emissions

Construction of the Proposed Project would create air emissions primarily from equipment exhaust and fugitive dust. The air emissions from the Proposed Project were analyzed through use of the CalEEMod model (see Appendix A). Construction activities for the Proposed Project were modeled based on the construction schedule, phases and equipment that are detailed in Section 2.3.2 of the Project Description. Since Phases 4 and 5 would include building construction, paving, and application of architectural coating, which are different defined phases in CalEEMod, with different emissions

sources, the timing and equipment for Phases 4 and 5 were spread out over the building construction, paving and architectural coatings phases analyzed in CalEEMod.

Table 5-5 shows the estimated worst-case summer or winter daily emissions that would be predicted from each phase of the Proposed Project, which is based on the construction equipment provided by the applicant of what is anticipated to be used during construction activities.

Table 5-5 – Construction-Related Regional Criteria Pollutant Emissions

Phase/Activity	Pollutant Emissions in pounds/day					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase 1 - Temporary Structures	0.95	3.30	7.85	0.02	0.17	0.11
Phase 2 – Demolition	0.98	9.00	14.54	0.04	4.07	0.83
Phase 3 - Grading	2.71	11.97	18.16	0.06	4.03	1.87
Phases 4 & 5 – Combined Building Construction, Paving, and Painting	19.26	12.10	24.52	0.06	1.34	0.61
SCAQMD Regional Thresholds	75	100	550	150	150	55
Exceed Thresholds?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4.0.

As shown in Table 5-5 , short-term construction-related emissions would not exceed SCAQMD regional criteria pollutant thresholds. In addition, construction emissions would be short-term, limited only to the period when construction activity is taking place. As such, construction-related regional emissions would be less than significant for the Proposed Project.

The Proposed Project's construction-related air emissions from fugitive dust and onsite diesel emissions may have the potential to exceed the state and federal air quality standards in the Project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The nearest sensitive receptors are homes located as near 50 feet (15 meters) to the north of the proposed improvements on the Project site.

The local air quality emissions from construction were analyzed using the SCAQMD's Mass Rate LST Look-up Tables and the methodology described in LST Methodology, prepared by SCAQMD, revised July 2008. In order to determine if any of the analyzed pollutants require a detailed analysis of the local air quality impacts, each phase of construction was screened using the LST Look-Up Tables. Table 5-6 – shows the onsite emissions from the CalEEMod model for the different construction phases and the calculated emissions thresholds.

Table 5-6 – Construction-Related Local Criteria Pollutant Emissions

Activity	Onsite Pollutant Emissions in pounds/day			
	NOx	CO	PM_{10}	$PM_{2.5}$
Phase 1 - Temporary Structures	3.30	7.68	0.08	0.08
Phase 2 – Demolition	4.60	12.53	3.25	0.58

Activity	Onsite Pollutant Emissions in pounds/day			
	NOx	CO	PM_{10}	$PM_{2.5}$
Phase 3 - Grading	11.74	17.70	3.78	1.80
Phases 4 & 5 – Combined Building Construction, Paving, and Painting	11.32	22.64	0.34	0.34
SCAQMD Local Thresholds[1]	197	1,711	14	9
Exceed Thresholds?	No	No	No	No

[1] The nearest sensitive receptors are homes located as near as 50 feet (15 meters) north of the proposed improvements. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: CalEEMod Version 2020.4.0 and SCAQMD's Mass Rate Look-Up Tables for five acres in Air Monitoring Area 18.

The data provided in Table 5-6 – shows that construction-related emissions would not exceed SCAQMD's local air concentration thresholds. In addition, construction emissions would be short-term, limited only to the period when construction activity is taking place. As such, construction related local air concentrations would be less than significant for the Proposed Project.

Operational Emissions

The Proposed Project would generate air emissions from vehicular emissions, area sources, and energy usage. The air emissions associated with the Proposed Project have been calculated through use of the CalEEMod model and are based on the year 2022, which is the anticipated opening year of the Proposed Project. The vehicle trips modeled in CalEEMod were obtained from the Traffic Summary Memo (LSA 2022). It should be noted that the CalEEMod model run analyzed the entire Project, instead of just the proposed changes to the Project, in order to provide a worst-case analysis. Table 5-7 shows the estimated worst-case daily emissions from operation of the Proposed Project.

Table 5-7 – Operations-Related Regional Criteria Pollutant Emissions

Activity	Pollutant Emissions in pounds/day					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Area Sources[1]	1.95	0.07	0.46	<0.01	<0.01	<0.01
Energy Usage[2]	0.07	0.61	0.50	<0.01	0.05	0.05
Mobile Sources[3]	1.39	1.14	11.54	0.02	3.11	0.84
Total Project Emissions	3.41	1.82	12.50	0.03	3.16	0.89
SCAQMD Regional Thresholds	55	55	550	150	150	55
Exceed Thresholds?	No	No	No	No	No	No

Notes:
[1] Area sources consist of emissions from consumer products, architectural coatings, hearths, and landscape equipment.
[2] Energy usage consists of emissions from (non-hearth) natural gas usage.
[3] Mobile sources consist of emissions from vehicles and road dust.
Source: CalEEMod Version 2020.4.0.

As shown in Table 5-7, operations-related emissions would not exceed SCAQMD regional thresholds. As such, operations-related regional emissions would be less than significant for the Proposed Project.

The Proposed Project's operations-related on-site air emissions may have the potential to exceed the State and Federal air quality standards in the Project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. The nearest sensitive receptors to the Project site are homes located as near as 50 feet (15 meters) to the north.

The local air quality emissions from operations were analyzed in the same manner detailed above for construction emissions. Table 5-8 shows the emissions from the CalEEMod model and the emissions thresholds from the Look-Up Tables.

Table 5-8 – Operations-Related Local Criteria Pollutant Emissions

Activity	On-Site Pollutant Emissions in pounds/day			
	NOx	CO	PM_{10}	$PM_{2.5}$
Area Sources	0.07	0.46	<0.01	<0.01
Energy Usage	0.61	0.50	0.05	0.05
Mobile Sources	1.14	11.54	3.11	0.84
Total Project Emissions	1.82	12.50	3.16	0.89
SCAQMD Local Thresholds[1]	197	1,711	4	2
Exceed Threshold?	No	No	No	No

Notes:
[1] The nearest existing sensitive receptors are homes located as near as 50 feet (15 meters) north of the proposed improvements. According to SCAQMD methodology, all receptors closer than 25 meters are based on the 25-meter threshold.
Source: CalEEMod Version 2020.4.0.

The data provided in Table 5-8 shows that none of criteria pollutants would exceed the SCAQMD local emissions thresholds at the nearest sensitive receptors. As such, operations-related local emissions would be less than significant for the Proposed Project.

Accordingly, the Proposed Project would not result in a cumulative considerable net increase of any criteria pollutant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result significant exposure of sensitive receptors to significant pollutant concentrations. The area in which the previously Approved Project is located is dominated by nonresidential development, including professional office. Some residential development exists north and west of the Project site, and a senior housing development is located off of Jamboree Road between Back Bay Road and Coast Highway; however, there are no hospitals, schools or other sensitive receptors located near the Project site. Moreover, as discussed in the preceding assessment of potential air quality impacts, the Approved Project would not generate pollutant emissions that would exceed established SCAQMD thresholds, either during the temporary construction phases or over the long-term operating life of the proposed facilities and residences when occupied. Although no significant impacts are anticipated, several conditions are prescribed to further reduce dust and construction equipment exhaust emissions during the construction phase. Therefore, a less than significant impact would occur.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project has the potential to expose nearby sensitive receptors to criteria pollutants, including CO hotspots, and toxic air contaminants (TACs). As discussed above in (b), the local concentrations of criteria pollutant emissions have been calculated for construction and operational activities. The analysis above found that less than significant criteria pollutant concentrations would occur during construction and operation of the Proposed Project at the nearby sensitive receptors. As such, a less than significant impact would occur to sensitive receptors from localized criteria pollutant concentrations.

According to SCAQMD methodology, health effects from TACs are usually described in terms of "individual cancer risk." "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

Construction-Related TAC Emissions

Construction of the Proposed Project would generate TAC emissions from the onsite operation of diesel-powered equipment in the form of diesel particulate matter. Given the relatively limited number of heavy-duty construction equipment, the varying distances to the nearby sensitive receptors that construction equipment would operate, and the short-term construction schedule, the Proposed Project would not result in a long-term (i.e., 70 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk. In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes and requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet; currently, no commercial operator is allowed to purchase Tier 0 or Tier 1 equipment and by January 2023 no commercial operator is allowed to purchase Tier 2 equipment. In addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. Therefore, less than significant short-term toxic air contaminant impacts would occur during construction of the Proposed Project.

Operations-Related TAC Emissions

Particulate matter from diesel exhaust is the predominant TAC in most areas and according to *The California Almanac of Emissions and Air Quality 2013 Edition*, prepared by CARB, about 80 percent of the outdoor TAC cancer risk is from diesel exhaust. Some chemicals in diesel exhaust, such as benzene and formaldehyde have been listed as carcinogens by State Proposition 65 and the Federal Hazardous Air Pollutants program. Due to the nominal number of diesel truck trips that are anticipated to be generated by the on-going operation of the Proposed Project, a less than significant TAC impact would be created from the on-going operations of the Proposed Project and no mitigation would be required.

CO "Hot Spot"

The Proposed Project would not result in potentially adverse CO concentrations or "hot spots." At the time of the 1993 Handbook, the Air Basin was designated nonattainment under the CAAQS and

NAAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technologies on industrial facilities, CO concentrations in the Air Basin and in the state have steadily declined. In 2007, the Air Basin was designated in attainment for CO under both the CAAQS and NAAQS. SCAQMD conducted a CO hot spot analysis for attainment at the busiest intersections in Los Angeles during the peak morning and afternoon periods and did not predict a violation of CO standards. The four intersections analyzed by the SCAQMD were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with Level of Service (LOS) E in the morning and LOS F in the evening peak hour.

Since the nearby intersections to the Proposed Project are much smaller with less traffic than what was analyzed by the SCAQMD and since the CO concentrations are now approximately 60 percent lower than when CO was designated in attainment in 2007, no local CO Hotspot are anticipated to be created from the Proposed Project and no CO Hotspot modeling was performed. Therefore, a less than significant impact is anticipated to sensitive receptors from potential CO Hotspots.

Therefore, implementation of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result production of odors adversely affecting substantial numbers of persons. A variety of odors would be associated with construction equipment exhaust emissions and application of paints and other architectural coatings. The odors would be minor and temporary in nature and would not significantly affect people residing or occupying areas beyond the immediate construction zones. Subsequent to the completion of construction activities, development of the site with the proposed tennis club, hotel development, and residential homes would not result in any significant change in the kinds of odors that could be experienced near the Project site, which is composed of mixture of residential, office and retail uses. Occasional, less than significant odors may occur in conjunction with trash pickup and outdoor food preparation (e.g., barbeques), and possibly with outdoor maintenance activities. Trash containers would be equipped with lids and would be stored inside the dwelling units and garages. The Approved Project will not generate unusual or large quantities of solid waste materials, or utilize chemicals, food products, or other materials that emit strong odors that would adversely affect the ambient air quality in the Project environs. Therefore, the Approved Project does not have the potential to create objectionable odors; and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Potential sources that may emit odors during construction activities include the application of coatings such as asphalt pavement, paints, and solvents and from emissions from diesel equipment. Standard construction requirements that limit the time of day when construction may occur as well as SCAQMD Rule 1108 that limits VOC content in asphalt and Rule 1113 that limits the VOC content in paints and solvents would minimize odor impacts from construction. As such, the objectionable odors that may be produced during the construction process would be temporary and would not likely be noticeable for extended periods of time beyond the Project site's boundaries. Through compliance with the

applicable regulations that reduce odors and due to the transitory nature of construction odors, a less than significant odor impact would occur, and no mitigation would be required.

Potential sources of odor emission during operation of the Proposed Project would include diesel emissions from truck deliveries as well as from trash storage areas. Diesel truck emissions odors would be generated intermittently from truck loading and unloading activities at the Project site and would not likely be noticeable for extended periods of time beyond the Project site boundaries. Pursuant to City regulations, permanent trash enclosures that protect trash bins from rain as well as limit air circulation would be required for the trash storage areas. Due to the distance of the nearest sensitive receptor from the Project site and through compliance with SCAQMD's rules that include Rule 402 (odor regulations and the City's trash storage regulations, a less than significant impact related to odors would occur during the on-going operations of the Proposed Project. Operational-related odor impacts would be less than significant, and no mitigation would be required.

Therefore, construction and operation of the Proposed Project would not create objectionable odors affecting a substantial number of people, and impacts would be less than significant.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to air quality resources would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.4 BIOLOGICAL RESOURCES

4.	BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
(b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

4.	BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

5.4.1 Impact Analysis

a) *Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as 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?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to sensitive species. The subject property has been extensively altered as a result of site development. No important biological resources are identified for this area in the Natural Resources Element of the Newport Beach General Plan (refer to Figure NR1) and no environmental study areas exist on the site (refer to Figure NR2) in that Element (City 2010). As previously indicated, the site is developed with tennis facilities, including parking lots. Virtually all of the vegetation existing within the limits of the site is introduced landscape species. The Approved Project site is surrounded by a golf course, residential, office and commercial developments. No sensitive habitat and/or sensitive plant or animal species exist on the subject property. The Approved Project will not result in any modifications to sensitive habitat and/or sensitive species of plants or animals. Alteration of the site as proposed will not result in any potentially significant direct or indirect impacts to sensitive habitat and/or species.

Proposed Project Analysis and Significance Determination: No Impact. The Proposed Project site has been extensively altered because of previous development, as discussed in the 2010 MND. The site is developed with tennis and interim-use pickleball facilities, including parking lots. Same existing condition as previously analyzed, virtually all of the vegetation existing within the limits of the site is introduced landscape species. The site is surrounded by a golf course, residential, office and commercial developments. No sensitive habitat and/or sensitive plant or animal species exist on the subject property. The Proposed Project will result in the addition of one tennis court, additional hotel

rooms, the ancillary hotel uses, and change in residential uses. Project implementation will not result in any modifications to sensitive habitat and/or sensitive species of plants or animals. Alteration of the site as proposed will not result in any potentially significant direct or indirect impacts to sensitive habitat and/or species. No significant impacts are anticipated no major revisions to the 2010 MND will be required, and no mitigation measures are required.

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 or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to riparian habitat. No riparian features exist within the limits of the site (City 2010). The two ponds associated with the adjacent golf course and were not analyzed and not as part of the Approved Project. Grading and site development proposed by the applicant will not result in any impacts to riparian habitat or other sensitive natural community identified either in the City's General Plan or Coastal Land Use Plan. No impact would occur.

Proposed Project Analysis and Significance Determination: No Impact. No riparian features exist within the limits of the site (United States Fish and Wildlife Service [USFWS] 2022), similar to the conditions noted in the 2010 MND (City 2010). The two ponds associated with the adjacent golf course are not included within the development limits of the Proposed Project and, therefore, will not be directly affected by the Proposed Project. Grading and site development proposed by the applicant will not result in any impacts to riparian habitat or other sensitive natural community identified either in the City's General Plan or Coastal Land Use Plan. No new impacts would result and no major revisions to the 2010 MND will be required.

c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to wetlands. As indicated above, no riparian habitat exists on the subject property and no wetlands as defined by Section 404 of the Clean Water Act occur on the site (City 2010). Approved Project implementation will not result in any impacts to either wetlands or riparian species. No impact would occur.

Proposed Project Analysis and Significance Determination: No Impact. As indicated above, no riparian habitat exists on the subject property and no wetlands as defined by Section 404 of the Clean Water Act occur on the site (USFWS 2022) (City 2010). Proposed Project implementation will not result in any impacts to either wetlands or riparian species. No new impacts would result and no major revisions to the 2010 MND will be required.

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 impede the use of native wildlife nursery sites?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to the movement of native species. The subject property and the surrounding areas are developed, and no migratory wildlife corridors occur on site or in the immediate vicinity of the site that would be affected by development of the subject property (City 2010). As a result, the Approved Project will not interfere with resident, migratory or wildlife species. No impact would occur.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND the subject property and the surrounding areas are developed, and no migratory wildlife corridors occur on site or in the immediate vicinity of the site that would be affected by development of the subject property (City 2010). As a result, the Proposed Project will not interfere with resident, migratory or wildlife species. No new impacts would result and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to local biological related policies. The site is devoid of protected habitat and/or species, including heritage trees. Implementation will not result in any conflicts with adopted policies or ordinances intended to protect biological resources (City 2010). No impact would occur.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND, the site is devoid of protected habitat and/or species, including heritage trees. As discussed in the 2010 MND, implementation will not result in any conflicts with adopted policies or ordinances intended to protect biological resources (City 2010). No new impacts would result and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to habitat plans. There are no local, regional, or state habitat conservation plans that would regulate or guide development of the Project site (City 2010). The subject property, which has been developed as private recreational use (Tennis Club) does not support native habitat and/or species and is not included in either a Habitat Conservation Plan or a Natural Community Conservation Plan. No impacts would occur to an existing Habitat Conservation Plan (HCP) and/or Natural Community Conservation Planning (NCCP) will occur as a result of Project implementation.

Proposed Project Analysis and Significance Determination: No Impact. There are no local, regional, or state habitat conservation plans that would regulate or guide development of the Project site, as discussed in the 2010 MND (City 2010). The subject property, which has been developed and still remains as private recreational use (Tennis Club) does not support native habitat and/or species and is not included in either a Habitat Conservation Plan or a Natural Community Conservation Plan. No impacts would occur to an existing HCP and/or NCCP will occur as a result of Proposed Project

implementation. No new impacts would result and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, and while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to biological resources would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.5 CULTURAL RESOURCES

5.	CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
(b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
(c)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

5.5.1 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to cultural resources. The subject property is currently developed with a private tennis club with 24 tennis courts. Figure HR1 in the City's Historical Resources Element indicates that no historical resources are located on the site. Although no historic sites are located on the subject property, the California Point of Historical Interest (2009) of the Office of Historic Preservation, Department of Parks and Recreation, lists one property within a one-half mile radius of the subject property (City 2010). ORA-009, the site of the 1953 National Boy Scout Jamboree (present location of Newport Center) is near the site. This site is also listed on the California Historic Resources Inventory. No historic resources and/or properties within one-half mile of the site are identified by the California Historical Landmarks (2009) of the Office of Historic Preservation, Department of Parks and Recreation, or the National Register of Historic Places. Implementation of the Approved Project would not result in any direct or indirect impacts to the existing historic site

(ORA-009). Furthermore, the site is not identified by the City as possessing potentially important historic resources (City 2010).

Proposed Project Analysis and Significance Determination: No Impact. The subject property is currently developed with a private tennis and pickleball club with 16 tennis courts and 31 interim-use pickleball courts. Figure HR1 in the City's Historical Resources Element indicates that no historical resources are located on the site. Although no historic sites are located on the subject property, the California Point of Historical Interest (2009) of the Office of Historic Preservation, Department of Parks and Recreation, lists the site of the 1953 National Boy Scout Jamboree within a one-half mile radius of the subject property (City 2010). ORA-009, (documented with a marker at Fashion Island). This site is also listed on the California Historic Resources Inventory and in City of Newport Beach Historic Resource Inventory as Class 5 (Point of Historic Interest – a site of a building, structure, or object that no longer exists, but is associated with historic events or persons, or architecturally significant structures). No historic resources and/or properties within one-half mile of the site are identified by the California Historical Landmarks (2009) of the Office of Historic Preservation, Department of Parks and Recreation, or the National Register of Historic Places. Implementation of the Proposed Project would not result in any direct or indirect impacts to the existing historic site (ORA-009). Furthermore, the site is not identified by the City as possessing potentially important historic resources (City 2010). Therefore, no potentially significant impacts to historic resources would occur and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to archaeological resources. 38 studies have been conducted within a one-half mile radius of the subject property. However, none of the studies occurred within the Project site. In addition, 19 investigations also occurred on the Newport Beach, Laguna Beach, and Tustin 7.5-minute U.S.G.S. quadrangle maps that are also potentially within one-half mile of the site. Although no site-specific surveys have been conducted on the subject property, the site has been substantially altered in order to accommodate the existing tennis facilities (City 2010). The Approved Project proposes changes only to areas of the site that have previously been altered by grading and prior development. Alteration of the Tennis Club portion of the site necessary to accommodate the new tennis clubhouse, a hotel development, and residential homes will also affect areas that have previously been graded and substantially altered. As a result, Approved Project implementation is not anticipated to adversely affect archaeological/cultural resources that may exist on the site, no new impacts would result, and no major revisions to the 2010 MND will be required. Although no significant impacts are anticipated and no mitigation measures are necessary, as a standard condition (SC), the City will require that a qualified archaeologist/paleontologist be present during grading and site alteration to monitor grading and landform alteration (refer to SC-8 in the 2010 MND). Implementation of the following standard conditions and mitigation measure is consistent with applicable Policy No. HR 2.2 of the Historic Resources Element of the Newport Beach General Plan:

SC-8 A qualified archaeological/paleontological monitor shall be retained by the Project applicant who will be available during the grading and landform alteration phase. In the event that cultural resources and/or fossils are encountered during

excavations in the vicinity of the discovery shall be redirected or halted by the monitor until the find has been salvaged. The area surrounding any cultural materials or fossils encountered during grading shall also be investigated to determine the extent of the site. Any artifacts and/or fossils discovered during Project construction shall be prepared to a point of identification and stabilized for long-term storage. Any discovery, along with supporting documentation and an itemized catalogue, shall be accessioned into the collections of a suitable repository. Curation costs to accession any collections shall be the responsibility of the Project applicant.

MM-1 The City shall provide an opportunity for a Native American representative to monitor excavation activities. The representative shall be determined by the City based on input from concerned Native American tribes (i.e., Gabrielino, Juaneno, and Tongvas).

Proposed Project Analysis and Significance Determination: Less than Significant with Mitigation Incorporated. As previously discussed in the 2010 MND, 38 studies have been conducted within a one-half mile radius of the subject property. However, none of the studies occurred within the Project site. In addition, 19 investigations also occurred on the Newport Beach, Laguna Beach, and Tustin 7.5-minute U.S.G.S. quadrangle maps that are also potentially within one-half mile of the site. Although no site-specific surveys have been conducted on the subject property, the site has been substantially altered in order to accommodate the existing tennis facilities (City 2010).

As the Proposed Project includes a general plan amendment request, the City conducted Senate Bill (SB) 18 tribal consultation and completed a Sacred Lands File request with the Native American Heritage Commission (NAHC). The NAHC Sacred Lands File results were positive for potential resources, and the City conducted outreach to all tribes included in the NAHC response. To date, the Gabrieleno Tongva Indians of California and Juaneno Band of Mission Indians Achjachemen Nation-Belardes have requested consultation. The City will continue to provide opportunities as stated in MM-1 above, to allow for tribes to monitor ground disturbance. The Project proposes changes only to areas of the site that have previously been altered by grading and prior development. Alteration of the Tennis Club portion of the site necessary to accommodate the Proposed Project will also affect areas that have previously been graded and substantially altered. As a result, Project implementation is not anticipated to adversely affect archaeological/cultural resources that may exist on the site, no new impacts would result, and no major revisions to the 2010 MND will be required. The Proposed Project would incorporate the same standard conditions and mitigation measure implemented as the 2010 MND.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to human remains. The Project site and surrounding areas are highly disturbed due to past urban development and there is no evidence of human remains or sites of Native American burials. Based on the degree of disturbance that has already occurred on the Tennis Club site and in the near vicinity (Newport Center), it is anticipated that Approved Project implementation would not result in potentially significant impacts to human remains; however, as indicated above, a qualified archaeological/paleontological monitor will be

present on-site during grading to ensure that in the event human remains are encountered, appropriate measures will be implemented in accordance with State law regarding human remains.

Proposed Project Analysis and Significance Determination: No Impact. The Project site and surrounding areas are highly disturbed due to past urban development and there is no evidence of human remains or sites of Native American burials. Based on the degree of disturbance that has already occurred on the Tennis Club site and in the near vicinity (Newport Center), it is anticipated that Proposed Project implementation would not result in potentially significant impacts to human remains; however, as indicated above, a qualified archaeological/paleontological monitor will be present on-site. The Proposed Project would incorporate SC-CULT-1 and SC-CULT-2. These standard conditions are not new measures required to reduce impacts, instead are updates to the City's standard conditions that are applied to City projects.

SC-CULT-1 In compliance with City Council Policy K-5 Paleontological and Archaeological Resource Protection Guidelines, prior to the issuance of a grading permit by the City of Newport Beach, the Applicant shall retain a qualified archaeologist to periodically monitor ground-disturbing activities onsite and provide documentation of such retention to the City of Newport Beach Community Development Director. The archaeologist shall train Project construction workers on the types of archaeological resources that could be found in site soils. The archaeologist shall periodically monitor Project ground-disturbing activities. During construction activities, if Native American resources (i.e., Tribal Cultural Resources) are encountered, a Cultural Resource Monitoring and Discovery Plan (CRMDP) shall be created and implemented to lay out the proposed personnel, methods, and avoidance/recovery framework for tribal cultural resources monitoring and evaluation activities within the Project area. A consulting Native American tribe shall be retained and compensated as a consultant/monitor for the Project site from the time of discovery to the completion of ground disturbing activities to monitor grading and excavation activities. If archaeological resources are encountered, all construction work within 50 feet of the find shall cease, and the archaeologist shall assess the find for importance and whether preservation in place without impacts is feasible. Construction activities may continue in other areas. If, in consultation with the City and affected Native American tribe (as deemed necessary), the discovery is determined to not be important, work will be permitted to continue in the area. Any resource that is not Native American in origin and that cannot be preserved in place shall be curated at a public, nonprofit institution with a research interest in the materials, such as the South Central Coastal Information Center at California State University, Fullerton.

SC-CULT-2 In compliance with City Council Policy K-5 *Paleontological and Archaeological Resource Protection Guidelines*, prior to the issuance of a grading permit by the City of Newport Beach, the Applicant shall retain a qualified archaeologist to periodically monitor ground-disturbing activities onsite and provide documentation of such retention to the City of Newport Beach Community Development Director. The archaeologist shall train Project construction workers on the types of archaeological resources that could be found in site soils. The archaeologist shall periodically monitor Project ground-disturbing activities. During construction activities, if Native American resources (i.e., Tribal Cultural

Resources) are encountered, a (CRMDP) shall be created and implemented to lay out the proposed personnel, methods, and avoidance/recovery framework for tribal cultural resources monitoring and evaluation activities within the Project area. A consulting Native American tribe shall be retained and compensated as a consultant/monitor for the Project site from the time of discovery.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to cultural resources would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.6 ENERGY

6.	ENERGY Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

5.6.1 Environmental Setting

Energy conservation management in the State was initiated by the 1974 Warren-Alquist State Energy Resources Conservation and Development Act that created the California Energy Resource Conservation and Development Commission (currently named California Energy Commission [CEC]), which was originally tasked with certifying new electric generating plants based on the need for the plant and the suitability of the site of the plant. In 1976 the Warren-Alquist Act was expanded to include new restrictions on nuclear generating plants, that effectively resulted in a moratorium of any new nuclear generating plants in the State. The following lists specific regulations adopted by the State in order to reduce the consumption of energy:

- California Code of Regulations (CCR) Title 20 – Regulations for appliance efficiency standards;
- CCR Title 24 Part 6 – Energy efficiency standards for residential and nonresidential buildings;
- CCR Title 24 Part 11 – CalGreen Building Standards;
- SB 100 – Regulations for retail sales of electricity;

- EO N-79-20 – Requires all new passenger vehicles and trucks to be zero-emission by the year 2035; and
- Assembly Bill (AB) 1109 – Requires the use of high-efficiency lighting in new structures.

5.6.2 Impact Analysis

a) Would the project a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate energy impacts as part of the required CEQA thresholds. No previous analysis is available.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project would impact energy resources during construction and operation. Energy resources that would potentially be impacted include electricity, natural gas, and fuel (petroleum-based fuel supplies and distribution systems). This analysis includes a discussion of the potential energy impacts of the Proposed Project during construction and operations, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. A general definition of each of these energy resources is provided below.

Electricity, a consumptive utility, is a human-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for onsite distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands. In 2021, Orange County consumed 18,932 gigawatt-hours (GWh) per year of electricity (CEC 2022).

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the State's total energy requirements and is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet. In 2020, Orange County consumed 580.19 Million Therms of natural gas (CEC 2022).

Petroleum-based fuels currently account for a majority of the California's transportation energy sources and primarily consist of diesel and gasoline types of fuels. However, the state has been working on developing strategies to reduce petroleum use. Over the last decade California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled. Accordingly, petroleum-based fuel consumption in California has declined. In 2017, 1,382 million gallons of gasoline and 61 million gallons of diesel was sold in Orange County (CEC 2018).

The following section calculates the potential energy consumption associated with the construction and operations of the Proposed Project and provides a determination whether any energy utilized by the Project is wasteful, inefficient, or unnecessary consumption of energy resources.

Construction Energy

The Proposed Project would consume energy resources during construction in three general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the Project site, construction worker travel to and from the Project site, as well as delivery and haul truck trips (e.g., hauling demolition material to offsite reuse and disposal facilities)
2. Electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power
3. Energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass

Construction-Related Petroleum Fuel Use

Petroleum-based fuel usage represents the highest amount of transportation energy potentially consumed during construction, which would be utilized by both off-road equipment operating on the Project site and on-road automobiles transporting workers to and from the Project site and on-road trucks transporting equipment and supplies to the Project site.

The off-road construction equipment and construction-related vehicle trips fuel usage was calculated through use of the fuel use assumptions provided in Appendix A, which found that construction activities for the Proposed Project would consume 10,351 gallons of gasoline and 7,155 gallons of diesel fuel. This equates to 0.0007 percent of the gasoline and 0.01 percent of the diesel consumed annually in Orange County. As such, the construction-related petroleum use would be nominal, when compared to current county-wide petroleum usage rates.

Construction activities associated with the Project would be required to adhere to all State and SCAQMD regulations for off-road equipment and on-road trucks, which provide minimum fuel efficiency standards. As such, construction activities for the Proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy resources. Impacts regarding transportation energy would be less than significant. Development of the Project would not result in the need to manufacture construction materials or create new building material facilities specifically to supply the Project. It is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete; therefore, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business.

Construction-Related Electricity

During construction, the Proposed Project would consume electricity to construct the new structures and infrastructure. Electricity would be supplied to the Project site by Southern California Edison (SCE) and would be obtained from the existing electrical lines in the vicinity of the Project site. The use of

electricity from existing power lines rather than temporary diesel or gasoline-powered generators would minimize impacts on fuel consumption. Electricity consumed during Project construction would vary throughout the construction period based on the construction activities being performed. Various construction activities include electricity associated with the conveyance of water that would be used during Project construction for dust control (supply and conveyance) and electricity to power any necessary lighting during construction, electronic equipment, or other construction activities necessitating electrical power. Such electricity demand would be temporary and nominal and would cease upon the completion of construction. Overall, construction activities associated with the Proposed Project would require limited electricity consumption that would not be expected to have an adverse impact on available electricity supplies and infrastructure. Therefore, the use of electricity during Project construction would not be wasteful, inefficient, or unnecessary.

Since power lines currently exist on the Project site, it is anticipated that only nominal improvements would be required to SCE distribution lines and equipment with development of the Proposed Project. Compliance with the City's guidelines and requirements would ensure that the Project fulfills its responsibilities relative to infrastructure installation, coordinates any electrical infrastructure removals or relocations, and limits any impacts associated with construction of the Project. Construction of the Project's electrical infrastructure is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity.

Operational Energy

The ongoing operation of the Proposed Project would require the use of energy resources for multiple purposes including, but not limited to, pumps and other mechanical industrial equipment, heating/ventilating/air-conditioning (HVAC), refrigeration, lighting, appliances, and electronics. Energy would also be consumed during operations related to water usage, solid waste disposal, landscape equipment, and vehicle trips.

Operations-Related Electricity

Operation of the Proposed Project would result in consumption of electricity at the Project site. According to the CalEEMod model printouts (see Appendix A), the Proposed Project would consume 757,054 kilowatt-hours per year of electricity. This equates to 0.003 percent of the electricity consumed annually in Orange County. As such, the operations-related electricity use would be nominal when compared to current electricity usage rates in the County.

Additionally, the Proposed Project would comply with all federal, State, and County requirements related to the consumption of electricity, including CCR Title 24, Part 6, Building Energy Efficiency Standards and CCR Title 24, Part 11, the CALGreen Code. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the Project, including enhanced insulation and use of energy-efficient lighting and appliances as well as requiring a variety of other energy efficiency measures to be incorporated into the proposed structure. Therefore, it is anticipated the Proposed Project will be designed and built to minimize electricity use and that existing and planned electricity capacity and electricity supplies would be sufficient to support the Proposed Project's electricity demand. Thus, impacts with regard to electrical supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

Operations-Related Natural Gas

Operation of the Proposed Project would result in increased consumption of natural gas at the Project site. According to the CalEEMod model printouts (see Appendix A), the Proposed Project would consume 2,275 MBTU (one million British Thermal Units) per year of natural gas. This equates to 0.004 percent of the natural gas consumed annually in Orange County. As such, the operations-related natural gas use would be nominal, when compared to current natural gas usage rates in the County.

It should be noted that, the Proposed Project would comply with all Federal, State, and City requirements related to the consumption of natural gas, which includes CCR Title 24, Part 6 Building Energy Efficiency Standards and CCR Title 24, Part 11: California Green Building Standards. The CCR Title 24, Part 6 and Part 11 standards require numerous energy efficiency measures to be incorporated into the Proposed Project, including enhanced insulation as well as use of efficient natural gas appliances and HVAC units. Therefore, it is anticipated the Proposed Project will be designed and built to minimize natural gas use and that existing and planned natural gas capacity and natural gas supplies would be sufficient to support the Proposed Project's natural gas demand. Thus, impacts with regard to natural gas supply and infrastructure capacity would be less than significant and no mitigation measures would be required.

Operations-Related Transportation Energy

Operation of the Proposed Project would result in increased consumption of petroleum-based fuels related to vehicular travel to and from the Project site. As calculated in Appendix A, the Project would consume 45,133 gallons of gasoline per year. This equates to 0.003 percent of the gasoline consumed in the County annually. As such, the operations-related petroleum use would be nominal when compared to current petroleum usage rates in the County.

Additionally, the Proposed Project would comply with all federal, State, and County requirements related to the consumption of transportation energy, including CCR Title 24, Part 11, the CALGreen Code, which requires all new parking lots to provide preferred parking for clean air vehicles and electric vehicle charging stations. Therefore, it is anticipated the Project will be designed and built to minimize transportation energy through the promotion of the use of electric-powered vehicles and that existing and planned capacity and supplies of transportation fuels would be sufficient to support the Project's demand. Thus, impacts regarding transportation energy supply and infrastructure capacity would be less than significant, and no mitigation measures would be required.

b) *Would the project Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate energy impacts as part of the required CEQA thresholds. No previous analysis is available.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The applicable plan for the Proposed Project is the *City of Newport Beach General Plan Housing Element,* January 2022, that provides energy conservation opportunities. The Proposed Project would be required to meet the Title 24, Part 6 building energy efficiency requirements that require incorporation of several energy efficiency measures into the design of the proposed

structures, including use of light-emitting diode (LED) lighting, enhanced insulation and windows, high-efficiency ventilation and appliances, as well as installation of photo-voltaic (PV) solar rooftop systems on the proposed homes within the Project. In addition, the Proposed Project would be required to meet the Part 11 California Green Building Standards Code (CalGreen), which provides minimum requirements for bicycle parking, carpool/vanpool/electric vehicle parking spaces, use of water-efficient plumbing and landscaping fixtures, recycling, and use of recycled materials in building products. Specific CalGreen requirements that are applicable to the Proposed Project include requiring that a minimum of 65 percent of construction waste be diverted from landfills, providing bicycle parking spaces, and providing electric vehicle charging stations within the proposed parking area. Through implementation of the above programs, regulations, and policies, the Proposed Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

Summary of Impacts

Although the 2010 MND was not required to analyze Energy as a separate resource area, energy-related questions were addressed in the greenhouse gas emissions section of the 2010 MND. The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, and while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to energy would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.7 GEOLOGY AND SOILS

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Directly or indirectly cause 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?	☐	☐	☐	☒

7.	GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 direct or indirect risks to life or property?	☐	☒	☐	☐
(e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
(f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐

5.7.1 Impact Analysis

a) Would the project directly or indirectly cause 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.

2010 MND Determination: Less than Significant Impact. The 2010 MND found that, although the subject property is located within a seismically active area, the Project site is not within an Alquist-Priolo Zone (City 2010). The Approved Project will provide structural plans to the City to demonstrated that the Project will meet **the** seismic design parameters within the California Building Code and policies outlined in the Safety Element in the General Plan.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, although the subject property is located within a seismically active area, the Project site is not within an Alquist-Priolo Zone (City 2010). Similar to the Approved Project, the Proposed Project will provide structural plans to the City to demonstrated that the Proposed Project will meet the seismic design parameters within the California Building Code and policies outlined in the Safety Element in the General Plan. No new impacts would occur, and no revisions to the 2010 MND would be required.

ii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

2010 MND Determination: Less than Significant Impact. As indicated above, the subject property is located in the seismically active southern California region; several active faults are responsible for generating moderate to strong earthquakes throughout the region (City 2010). Due to the proximity of the site to the San Joaquin Hills Blind Thrust and the Newport-Inglewood Fault zone, the Project site has a moderate to high probability to be subjected to seismic and associated hazards (City 2010). A probabilistic seismic hazard analysis of horizontal ground shaking was performed to evaluate the likelihood of future earthquake ground motions occurring at the site.

Although the Project site and surrounding areas could be subject to strong ground movements, incorporation of the recommendations included in the preliminary geotechnical report, adherence to current building standards of the City of Newport Beach, and compliance with current California Building Code standards would reduce the potential adverse effects of ground movement hazards to a less than significant level.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, the Project site and surrounding areas could be subject to strong ground movements, incorporation of the recommendations included in the preliminary geotechnical report, adherence to current building standards of the City of Newport Beach, and compliance with current California Building Code standards would reduce the potential adverse effects of ground movement hazards to a less than significant level. With the Proposed Project, new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

iii) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to seismic related ground failure. Based on the geologic exploration undertaken on the subject property for the 2010 MND, the site is underlain by sedimentary rocks of the Monterey Formation (City 2010). These rocks do not have the potential for liquefaction. Furthermore, no groundwater is present to the depths and no loose sands or coarse silt is present (City 2010). Therefore, the potential for liquefaction is negligible and less than significant. Proper design of the proposed structures associated with the Approved Project will ensure that ground failure, including that associated with liquefaction, will not pose a significant hazard to the development.

Proposed Project Analysis and Significance Determination: No Impact. The Proposed Project site is within the same area as the Approved Project and is underlain by sedimentary rocks of the Monterey Formation (City 2010). These rocks do not have the potential for liquefaction. Furthermore, no groundwater is present to the depths and no loose sands or coarse silt is present (City 2010). Therefore, the potential for liquefaction is negligible and less than significant. Similar to the Approved Project, proper design of the proposed structures associated with the Proposed Project will ensure that ground failure, including that associated with liquefaction, will not pose a significant hazard to the development. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

iv) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

2010 MND Determination: No Impact. The 2010 MND found that the site is generally devoid of slopes and no significant slopes are planned within the property (City 2010). Potential effects associated with slope stability are, therefore not anticipated to have a significant impact on the Approved Project.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND, the site is generally devoid of slopes and no significant slopes are planned within the property (City 2010). Potential effects associated with slope stability are, therefore not anticipated to have an adverse impact on the Proposed Project. No impact would occur, and no major revisions to the 2010 MND would be required.

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

2010 MND Determination: Less than Significant with Mitigation Incorporated. The 2010 MND found that implementation of the Approved Project will necessitate grading and excavation necessary to accommodate the proposed tennis clubhouse, hotel development, and residential homes that will temporarily expose on-site soils to potential erosion but would not result in a significant impact (City 2010). In that interim period, it is possible that some erosion may occur, resulting in some sedimentation; however, in order to ensure that erosion and sedimentation are minimized, the applicant will be required to prepare and submit an adequate drainage and erosion control plan, which complies with current City standards. Although it is possible that potential erosion could occur without the incorporation of appropriate measures, implementation of the mandatory appropriate erosion controls will avoid potential erosion impacts associated with site grading and development. Further, the proposed site will be engineered to ensure that surface/subsurface drainage does not contribute to erosion or adversely affect the stability of Project improvements. Other efforts required to ensure that potential erosion is minimized include slope protection devices, plastic sheeting, inspection for signs of surface erosion, and corrective measures to maintain, repair or add structures required for effective erosion and sediment movement from the site. As a result, potential impacts occurring from Approved Project implementation, including those anticipated during grading and after development of the site, will be avoided or reduced to a less than significant level. The following standard conditions and mitigation measures from the 2010 MND were included to avoid impacts (City 2010):

SC-9	All grading operations and construction shall comply with the applicable City of Newport Beach Grading Code and Grading Manual and the most recent version of the California Building Code.
SC-10	An erosion control plan shall be prepared and submitted to and approved by the City's Chief Building Official.
SC-11	Prior to issuance of the grading permit, the applicant shall submit a soils engineering report, and final geotechnical report to the City's Building Department for approval.
MM-2	The Project shall be designed to incorporate the recommendations included in "Revised Preliminary Geotechnical Design Parameters for the NBCC Planned

Community" (April 25, 2008) and "Report of Geotechnical Studies and Review of Vesting Tentative Tract Map No. 15347" (May 2, 2008) prepared by GMU Geotechnical that address site grading, site clearing, compaction, bearing capacity and settlement, lateral pressures, footing design, seismic design, slabs on grade, retaining wall design, subdrain design, concrete, surface drainage, landscape maintenance, etc. The Building Department shall review the grading plan to ensure conformance with recommendations contained in the final geotechnical report.

Proposed Project Analysis and Significance Determination: Less than Significant Impact with Mitigation Incorporated. Similar to the 2010 MND, implementation of the Proposed Project will necessitate grading and excavation necessary to accommodate the proposed Tennis and Pickleball Club, the hotel units, and the residential units that will temporarily expose on-site soils to potential erosion. Implementation of the Proposed Project would require compliance with City standards and designed to not contribute to erosion or affect the stability of Proposed Project-associated improvements. The Proposed Project would incorporate the same standard conditions and mitigation measures implemented as the 2010 MND.

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?*

2010 MND Determination: Less than Significant with Mitigation Incorporated. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to unstable geologic units with the proper mitigation measures being incorporated. The Approved Project does not have potential slope failure/landslide potential is not anticipated because no slopes are proposed, and no significant slopes exist on the subject property (City 2010). Therefore, site preparation and design of the proposed residences in accordance with the recommendations contained in the preliminary geotechnical report and compliance with the California Building Code will ensure that potential impacts will be avoided or reduced to a less than significant level.

Adherence to the recommendations in the preliminary geotechnical report prepared for the Approved Project, as part of mitigation included in the 2010 MND, would ensure that potential effects associated with settlement would be avoided (City 2010).

Proposed Project Analysis and Significance Determination: Less than Significant with Mitigation Incorporated. As noted in the 2010 MND, potential slope failure/landslide potential is not anticipated because no slopes are proposed, and no significant slopes exist on the subject property (City 2010). Therefore, site preparation and design of the proposed residences in accordance with the recommendations contained in the preliminary geotechnical report and compliance with the California Building Code will ensure that potential impacts will be avoided or reduced to a less than significant level. No new impacts would result from the Proposed Project with the same mitigation included and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant with Mitigation Incorporated. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to expansive soils with mitigation incorporated. Based on the analysis conducted from the 2010 MND, the on-site surface materials have a very low to low expansion index and a negligible sulfate content. However, because testing results were in the upper limit of the "low" expansion classification, it is anticipated that medium expansion potential may exist. The subject property is underlain by artificial fill, colluvium, and terrace deposits overlying bedrock assigned to the Monterey Formation (City 2010). Incorporation of mitigation from the 2010 MND (MM-2, above) will reduce impacts associated with expansive soils. With the incorporation of these recommendations, potential impacts will be less than significant.

Proposed Project Analysis and Significance Determination: Less than Significant with Mitigation Incorporated. Based on the analysis conducted from the 2010 MND, the on-site surface materials have a very low to low expansion index and a negligible sulfate content and have not changed from the initial investigation. Incorporation of mitigation from the 2010 MND (MM-2, above) will reduce impacts associated with expansive soils. With the incorporation of these recommendations, potential impacts will be less than significant. In addition, no new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any impacts to soils or septic tank systems. The Project will be connected to existing sewer lines (City 2010). No septic tanks or alternative wastewater disposal systems are proposed. Therefore, no significant impacts related to the implementation of an alternative waste disposal system are anticipated and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the Approved Project analyzed in the 2010 MND, the Proposed Project will be connected to existing sewer lines (City 2010). No septic tanks or alternative wastewater disposal systems are proposed. Therefore, no significant impacts related to the implementation of an alternative waste disposal system are anticipated and no mitigation measures are required. In addition, no new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

f) *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?*

2010 MND Determination: Less Than Significant Impact. As indicated previously in the 2010 MND, the Project area is located within an urbanized area of the City of Newport Beach and has been previously graded and developed (City 2010). Any near-surface paleontological resources that may have existed at one time have likely been disturbed and/or destroyed by prior development activities. Implementation of the Approved Project would be unlikely to result in any potentially significant impacts to paleontological resources because of the prior development activities that have taken

place on the site. However, due to the potential to encounter unknown resources, monitoring of the grading activities by a qualified paleontologist will be required as noted above in Section 5.5.1 to ensure that in the event that fossils or other important paleontological resources are encountered, appropriate measures can be taken to avoid adverse impacts to those resources. Therefore, no potentially significant impacts are anticipated from the Approved Project and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less Than Significant Impact. The Project area is located within an urbanized area of the City of Newport Beach and has been previously graded and developed (City 2010). Any near-surface paleontological resources that may have existed at one time have likely been disturbed and/or destroyed by prior development activities. Implementation of the Proposed Project would be unlikely to result in any potentially significant impacts to paleontological resources because of the prior development activities that have taken place on the site. However, due to the potential to encounter unknown resources, monitoring of the grading activities by a qualified paleontologist will be required as noted above in Section 5.5.1 to ensure that in the event that fossils or other important paleontological resources are encountered, appropriate measures can be taken to avoid adverse impacts to those resources. Therefore, no potentially significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to geology and soils would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.8 GREENHOUSE GAS EMISSIONS

8.	GREENHOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

5.8.1 Environmental Setting

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of GHGs that contribute to the "greenhouse effect," a natural occurrence that takes place in Earth's atmosphere to help regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back toward the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. However, anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat. Emissions resulting from human activities thereby contribute to an average increase in Earth's temperature.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

Significant legislative and regulatory activities directly and indirectly affect climate change and GHGs in California. The primary climate change legislation in California is AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing greenhouse gas emissions in California and requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. In addition to AB 32, Executive Order B-30-15 was issued on April 29, 2015, that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. In September 2016, AB 197 and SB 32 codified into statute the GHG emission reduction targets provided in Executive Order B-20-15.

CARB is the State agency charged with monitoring and regulating sources of emissions of GHGs in California that contribute to global warming in order to reduce emissions of GHGs. The CARB Governing Board approved the 1990 GHG emissions level of 427 million metric tons of CO_2 equivalent ($MtCO_2e$) on December 6, 2007. Therefore, in 2020, annual emissions in California are required to be at or below 427 $MtCO_2e$. The CARB Board approved the Climate Change Scoping Plan (Scoping Plan) in December 2008, the First Update to the Scoping Plan in May 2014, California's 2017 Climate Change Scoping Plan in November 2017, and 2022 Scoping Plan for Achieving Carbon Neutrality in November 2022. The Scoping Plans define a range of programs and activities that will be implemented primarily by State agencies but also include actions by local government agencies. Primary strategies addressed in the Scoping Plans include new industrial and emission control technologies; alternative energy generation technologies; advanced energy conservation in lighting, heating, cooling, and ventilation; reduced-carbon fuels; hybrid and electric vehicles; and other methods of improving vehicle mileage. Local government will have a part in implementing some of these strategies. The Scoping Plans also call for reductions in vehicle-associated GHG emissions through smart growth that will result in reductions in vehicle miles traveled (CARB 2010, 2016, 2017, 2018, 2022).

The City has not established thresholds applicable to the Project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, the SCAQMD, and various cities

and agencies have proposed, or adopted on an interim basis, thresholds of significance that require the implementation of GHG emission reduction measures. For the Proposed Project, which is located in the Air Basin, the most appropriate screening threshold for determining GHG emissions is the SCAQMD proposed Tier 3 screening threshold, which applies to commercial/residential projects (SCAQMD 2008); therefore, for the purposes of this analysis, a significant impact would occur if the Proposed Project would exceed the SCAQMD proposed Tier 3 screening threshold of 3,000 metric tons of carbon dioxide equivalent ($MtCO_2e$) per year.

5.8.2 Impact Analysis

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to greenhouse gas emissions. During Approved Project construction, the URBEMIS2007 computer model predicted that a peak activity day in the single worst case year of construction (2009 during demolition and grading) will generate 9,004.8 pounds/day of CO_2. The temporary construction activity GHG emissions were compared to the chronic operational emissions in the SCAQMD's interim thresholds. The proposed industrial operational threshold is 10,000 metric tons (MT) of $C0_2e$ per year. Grading activities generating 164 MT are well below this threshold. Construction activity GHG emissions are also below the proposed operational screening criteria of 3,000 MT for non-industrial uses.

The Approved Project's daily operational $C0_2e$ emissions will be less than existing emissions from reduced project-site travel. The annual reduction of 574 MT (631 "short" tons) of C02e emissions will offset the 196 MT of "new" $C0_2e$ emissions generated by the Approved Project.

Because the Approved Project will generate fewer GHG emissions than are generated under existing environmental conditions and despite the challenge of establishing thresholds of significance for global climate change impacts, it can be fairly stated that under any threshold which would be permitted by CEQA, the Approved Project will not have a significant impact on global climate change.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The CalEEMod model used above to calculate the criteria pollutant emissions was also utilized to calculate the GHG emissions associated with construction and operation of the Proposed Project (see Appendix A). The CalEEMod model calculated GHG emissions generated associated with construction and operation of the Proposed Project. Per the analysis methodology presented in the SCAQMD Working Group meetings, the construction emissions were amortized over 30 years. Table 5-9 shows the estimated GHG emissions that would be predicted from development of the Proposed Project.

Table 5-9 – Annual Greenhouse Gas Emissions from the Proposed Project

Activity	Greenhouse Gas Emissions in metric tons/year			
	CO_2	CH_4	N_2O	CO_2e
Area Sources	1.05	<0.01	<0.01	1.06
Energy Usage	255.67	0.01	<0.01	257.08
Mobile Sources	410.79	0.03	0.02	417.27

Activity	Greenhouse Gas Emissions in metric tons/year			
	CO_2	CH_4	N_2O	CO_2e
Solid Waste	9.65	0.57	0.00	23.91
Water and Wastewater	4.18	0.04	<0.01	5.52
Total Construction Emissions Amortized over 30 Years[1]	23.29	<0.01	<0.01	23.46
Total Project Emissions	**704.63**	**0.65**	**0.02**	**728.30**
SCAQMD Draft Threshold of Significance				**3,000**
Exceed Threshold?				No

Notes:
1 Construction emissions amortized over 30 years as recommended in the SCAQMD GHG Working Group on November 19, 2009.
Source: CalEEMod Version 2020.4.0 (see Appendix C).

This analysis proposes to use the "Tier 3" quantitative threshold for all land use projects as recommended by the SCAQMD. The SCAQMD proposes that if a project generates GHG emissions below 3,000 $MTCO_2e$, it could be concluded that the Project's GHG contribution is not "cumulatively considerable" and is therefore less than significant under CEQA. As shown in Table 5-9, the Proposed Project would generate 728.30 $MTCO_2e$ per year, which would not exceed SCAQMD draft annual threshold of 3,000 $MTCO_2e$. As such, it could be concluded that the Project's GHG contribution is not "cumulatively considerable" and is therefore less than significant under CEQA.

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any conflicts with greenhouse gas emission policies. At the time of approval, there was not yet a plan, policy, or regulation adopted to reduce GHG emissions which is applicable to the Approved Project. The City of Newport Beach, however, had implemented an informal policy for the environmental evaluation of potential GHG impacts of proposed projects. That policy provides that, until more guidance is provided from the expert agencies such as CARB and/or SCAQMD, the City intends to consider projects emitting 1,600 metric tons of C02e or less per year to be less than significant contributors to global climate change, thereby not requiring further analysis. For projects exceeding the screening threshold of 1,600 metric tons of C02e emissions per year, the City will consider those projects to have significant impacts if they either (1) are not substantially consistent with policies and standards set out in federal, state, and local plans designed to reduce GHGs or (2) would emit more than 6,000 metric tons of C02e per year. Projects that do not meet these thresholds would be considered to have significant impacts, and thus could be expected to impede the State's mandatory requirement under AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. As set forth above, in a "worst case" year, the Approved Project's daily C02e emissions during construction will equal no more than 164 metric tons. The operational activities of the Approved Project, which, under CEQA, must be evaluated not in "absolute" terms, but rather by comparison to existing environmental conditions, will not only be well below the City's informal threshold at 196 metric tons per year on an absolute basis, but will actually reduce overall operational GHG emissions. Additionally, the following standard conditions and project design features (PDF) would be incorporated into the Project:

SC-12 All new buildings shall meet Title 24 requirements.

SC-13 Water conservation design features shall be incorporated into building and landscape designs.

PDF-1 Design of buildings shall take into account the location of building air intake to maximize ventilation efficiency and incorporate natural ventilation.

PDF-2 The buildings shall incorporate energy-conserving heating and lighting systems.

PDF-3 The project shall incorporate fast-growing, low water use landscape to enhance carbon sequestration and reduce water use.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing GHG emissions. As detailed above in Impact a), the Proposed Project is anticipated to create 728.30 MTCO2e per year, which is well below the SCAQMD draft threshold of significance of 3,000 $MTCO_2e$ per year. The SCAQMD developed this threshold through a Working Group, which also developed detailed methodology for evaluating significance under CEQA. At the September 28, 2010 Working Group meeting, the SCAQMD released its most current version of the draft GHG emissions thresholds, which recommends a tiered approach that provides specific project level and program level thresholds that are based on substantial evidence supporting the use of the recommended thresholds. It should also be noted that the proposed structures would be required to meet the most current Title 24 Part 6 building standards that require all new structures to install enhanced insulation as well as require the installation of energy-efficient lighting and appliances and the residential structures are required to install rooftop PV solar systems. Therefore, the Proposed Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to greenhouse gas emissions would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.9 HAZARDS AND HAZARDOUS MATERIALS

9.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

5.9.1 Impact Analysis

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

2010 MND Determination: Less than Significant Impact. In the 2010 MND, construction activities associated with the Approved Project would include oil, gas, tar, construction materials and adhesives, cleaning solvents and paint, and other similar construction-related materials, none of which would result in a significant impact (City 2010). Transport of these materials to the site and use on the site would only create a localized hazard in the event of an accident or spills. Hazardous materials use, transport, storage, and handling would be subject to federal, state, and local regulations to reduce the risk of accidents. Equipment maintenance and disposal of vehicular fluids is subject to existing regulations, including the National Pollutant Discharge Elimination System (NPDES). Given the nature of the Project in terms of scope and size (tennis facilities), it is anticipated that normal storage, use and transport of hazardous materials will not result in undue risk to construction workers on the site or to persons on surrounding areas. The use and disposal of any hazardous materials on the site and

in conjunction with the Project will be in accordance with existing regulations (City 2010). With the exception of quantities of pesticides, fertilizers, cleaning solvents, paints, etc., that are typically used to maintain the landscaping located on the property, on-going operation of the tennis club and proposed residential and resort uses will not result in the storage or use of significant quantities of hazardous materials beyond that currently used. As a result, no significant impacts are anticipated related to the use, disposal and/or storage of hazardous materials in association with the proposed uses. As indicated in Section 5.9.1.c, remediation of the asbestos-containing materials (ACM) and lead-based paint (LBP) in accordance with regulatory requirements would avoid any potential impacts previously identified. Additionally, the following standard conditions were required to be incorporated into the Approved Project design:

SC-14 Prior to any disturbance of the construction materials within the tennis clubhouse, a comprehensive ACM and LBP survey shall be conducted. Any repairs, renovations, removal, or demolition activities that will impact the ACM and/or LBP or inaccessible ACM shall be performed by a licensed asbestos contractor. Inaccessible suspect ACM shall be tested prior to demolition or renovation. Proper safety procedures for the handling of suspect ACM and LBP shall be followed in accordance with federal, state and local regulatory requirements federal and California Occupation Safety and Health Administration (OSHA), and Air Quality Management District (AQMD) Rule 1403, which sets forth specific procedures and requirements related to demolition activities involving asbestos containing materials and SCAQMD Regulation–X - National Emission Standards For Hazardous Air Pollutants, Subpart–M - National Emission Standards For Asbestos, which include demolition activities involving asbestos.

SC-15 During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

Proposed Project Analysis and Significance Determination: Less than Significant. Similar to the Approved Project analyzed in the 2010 MND, construction activities associated with the Proposed Project would include oil, gas, tar, construction materials and adhesives, cleaning solvents and paint, and other similar construction-related materials (City 2010). Given the nature of the Proposed Project in terms of scope and size (tennis facilities), it is anticipated that normal storage, use and transport of hazardous materials will not result in undue risk to construction workers on the site or to persons on surrounding areas. The use and disposal of any hazardous materials on the site and in conjunction with the Proposed Project will be in accordance with existing regulations (City 2010). With the exception of quantities of pesticides, fertilizers, cleaning solvents, paints, etc., that are typically used to maintain the landscaping located on the property, on-going operation of the tennis and pickleball club, and proposed residential and hotel uses will not result in the storage or use of significant quantities of hazardous materials beyond that currently used. As a result, no significant impacts are anticipated related to the use, disposal and/or storage of hazardous materials in association with the proposed uses. As indicated in Section 5.9.1.c, remediation of the ACM and LBP in accordance with regulatory requirements would avoid any potential impacts previously identified. Impacts and

transportation of hazardous materials would be similar to the 2010 MND, with the same standard conditions being incorporated. No additional mitigation measures are required, and no major revisions to the 2010 MND would be required.

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?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any significant impacts associated with the release of hazardous materials.

The Approved Project's demolition and construction activities do not involve any activities and/or uses that would utilize hazardous materials or other substances that would, if released into the environment, create a safety or health hazard, other than those which are part of the existing environmental conditions because they are currently used to maintain the tennis club and related facilities. The nature of the existing landscaping use involves the application, storage, and mixing of pesticides and herbicides on the property. The chemicals, fertilizers and other hazardous materials will continue to be maintained on the premises in accordance with existing and future regulatory storage and use requirements.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project's demolition and construction activities do not involve any activities and/or uses that would utilize hazardous materials or other substances that would, if released into the environment, create a safety or health hazard, other than those which are part of the existing environmental conditions because they are currently used to maintain the tennis and pickleball club and related facilities. The nature of the existing landscaping use involves the application, storage, and mixing of pesticides and herbicides on the property. The chemicals, fertilizers and other hazardous materials will continue to be maintained on the premises in accordance with existing and future regulatory storage and use requirements. As a result, no significant impacts are anticipated, no mitigation measures are required, and no major revisions to the 2010 MND would be required.

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?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to the emission of hazardous materials. Visual asbestos survey was conducted as part of the Phase I Environmental Site Assessment (ESA) by Partner Engineering and Science, Inc., in April 2009 (City 2010) with recommendations that the ACM be maintained in place by instituting an operations and maintenance (O&M) program (e.g., repair damaged asbestos, cleanup of contaminated areas, notification and training of employees, routine inspections of ACM, etc.), which should continue until the ACM is removed (City 2010).

In addition to ACM, it is also possible that LBP may also exist within the existing structures; however, due to the commercial nature of the current use of the property, LBP was not considered within the scope of the Phase I ESA (City 2010). It is also possible that LBP may exist within these structures.

Similar to ACM, the release of LBP into the environmental could pose a potential health risk, given the proximity of the residential uses in the Project site. As discussed above in threshold (a), due to implementation of standard conditions 14 and 15, the chance of emission of hazardous emissions or materials would be less than significant.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. As discussed in the 2010 MND, visual asbestos survey was conducted during a Phase I ESA prepared by Partner Engineering and Science, Inc. in April 2009 (City 2010). The potential for lead-based paint and asbestos containing material remains the same, and the same remediation steps would be implemented as part of the Proposed Project. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to hazardous material sites. Information from standard federal, State, county, and city environmental record sources provided by Track Info Services Environmental FirstSearch was included in the Phase I ESA (City 2010). This information revealed that the subject property is not included on any lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No recognized environmental conditions were identified during the on-site investigation and/or database search conducted for the Approved Project and discussed in the Phase I ESA. As a result, no potentially significant health hazards or environmental hazards are anticipated, and no mitigation measures are required.

Based on the database search conducted for the Approved Project and included in the Phase I ESA, neither the subject property nor other properties identified within one mile of the site would expose the site and/or future users to an environmental concern or hazard. No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: No Impact. As discussed in the 2010 MND information from standard federal, State, county, and city environmental record sources provided by Track Info Services Environmental FirstSearch was included in the Phase I ESA (City 2010). No changes to the site have occurred between the initial Phase I ESA and current site conditions. No significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in a risk due to proximity to any nearby airports. The Project site is located approximately 4.0 miles south of John Wayne Airport (JWA) and is not located within the Airport Environs Land Use Plan Notification Area (i.e., Federal Aviation Regulation Part 77) for JWA

(Airport Land Use Commission 2008). Therefore, no significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND, the Project site is located approximately 4.0 miles south of John Wayne Airport (JWA). Conditions remain the same. Therefore, no significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to emergency response or evacuation plans. The City of Newport Beach has prepared an Emergency Operations Plan that designates procedures to be followed in case of a major emergency (City 2010). East Coast Highway is designated as an evacuation route in the City. The Project site is not designated for emergency use within the Emergency Operations Plan. The primary concern of the Public Safety Element and the City of Newport Beach is in terms of risks to persons and personal property. Although the site is subject to seismic shaking, development pursuant to building and fire code requirements will ensure that the potential impacts are minimized or reduced to an acceptable level. The site is not located within a flood hazard area or subject to such potential disasters (City 2010). Development of the subject property as proposed will not adversely affect either the evacuation routes or the adopted emergency operations planning program(s) being implemented by the City of Newport Beach. Potential circulation impacts associated with construction will be temporary in nature and will be addressed through the Construction Staging Plan that will be implemented, refer to Section 5.17.1 (a). In addition, any construction vehicles within the public right of way are prohibited from completely blocking vehicular and emergency access by the Vehicle Code. As a result, potential short-term circulation impacts associated with construction would not be significant.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. As discussed in the 2010 MND, the City of Newport Beach has prepared an Emergency Operations Plan that designates procedures to be followed in case of a major emergency (City 2010). East Coast Highway is designated as an evacuation route in the City. The Project site is not designated for emergency use within the Emergency Operations Plan. As a result, potential short-term circulation impacts associated with construction would not be significant. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts associated with exposure to wildland fires. As discussed in the 2010 MND, neither the Project site nor the surrounding areas are not located within a "Potential Fire Hazard Area" as identified by the Newport General Plan Public Safety Element (City 2010). The subject property is located within an urbanized area of the City of Newport Beach. No significant areas of natural vegetation and/or habitat exists on the site and the Approved Project

would not be directly affected by the potential for wildland fires. There are no major urban or wildland fire hazards that pose a significant threat to the development. Therefore, the site is not subject to a potential risk of wildland fires. No significant impacts as a result of wildland fires will occur if the Project is implemented and no mitigation measures are necessary.

Proposed Project Analysis and Significance Determination: No Impact. Neither the Project site nor the surrounding areas are not located within a "Potential Fire Hazard Area" as identified by the Newport General Plan Public Safety Element (City 2010). The subject property is located within an urbanized area of the City of Newport Beach. No significant areas of natural vegetation and/or habitat exists on the site and the Proposed Project would not be directly affected by the potential for wildland fires. There are no major urban or wildland fire hazards that pose a significant threat to the development. Therefore, the site is not subject to a potential risk of wildland fires. No significant impacts as a result of wildland fires will occur if the Project is implemented and no mitigation measures are necessary. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to hazards and hazardous materials would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.10 HYDROLOGY AND WATER QUALITY

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
(b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
(c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				

10.	HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
	i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flood on- or off-site;	☐	☐	☒	☐
	iii) 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; or	☐	☐	☒	☐
	iv) Impede or redirect flood flows?	☐	☐	☐	☒
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

5.10.1 Environmental Setting

A Hydrology Report was prepared by Land Strategies in September 2018, and subsequently updated in November 2021, and is provided as Appendix B. This report analyzed the change in hydrology from the proposed improvements onsite. Additionally, a Water Quality Management Plan (WQMP) was prepared in June 2010 by Land Strategies and has been revised multiple times with the latest update being completed in November 2021. This report has been designed to meet requirements for the current Orange County Drainage Area Management Plan and comply with NPDES requirements. The WQMP is provided as Appendix C.

5.10.2 Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts to water quality. Waste discharges associated with this Project that could affect water quality would be limited to non-point source discharges, including potential storm water runoff of construction materials and wastes and storm water runoff from the developed site (City 2010). This Approved Project would not generate any point sources of water pollution; all wastewater generated by the Approved Project would discharge directly to the City's sanitary sewer system, which would not affect the present permit to operate the affected wastewater treatment plant.

Potentially adverse water quality impacts during the construction phases would be avoided through compliance with existing regulatory programs administered by the City of Newport Beach and the Santa Ana Regional Water Quality Control Board (RWQCB). While it is impossible to anticipate all potential environmental issues that could arise on a daily basis during the course of the Approved Project, the site will be designed to address sediment and erosion control for both construction and

operational activities occurring on the subject property. The water quality features incorporated into the Approved Project will be selected to address the main pollutants of concern for a project of this type, and for the impacted water body, the Newport Bay. Newport Bay, which is located approximately 0.5 mile from the site, is listed as an "impaired" water body under Section 303(d) of the Clean Water Act, with respect to copper, nutrients, pathogens, pesticides (e.g., chlordane, DDT, PC-47Bs, etc.), and sediment toxicity. The following standard conditions were required by the City as part of the Approved Project. Therefore, a less than significant impact would occur.

SC-16 Prior to issuance of a grading permit, the Project applicant shall be required to submit a Notice of Intent (NOI) with the appropriate fees to the State Water Quality Resources Control Board for coverage of such future projects under the General Construction Activity Storm Water Runoff Permit prior to initiation of construction *activity* at a future site. As required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish BMPs in order to reduce sedimentation and erosion.

SC-17 Prior to issuance of a grading permit, the Project applicant shall prepare a Water Quality Management Plan (WQMP) for the Project and submit the WQMP to the City of Newport Beach for approval. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used to control predictable pollutant runoff, including flow/volume-based measures to treat the "first flush." The WQMP shall identify at a minimum the routine structural and non-structural measures specified in the Countywide NPDES Drainage Area Master Plan (DAMP), which details implementation of the BMPs whenever they are applicable to a project, the assignment of long-term maintenance responsibilities, and shall reference the locations of structural BMPs.

SC-18 Prior to issuance of a grading permit, the Project applicant shall prepare a Storm Water Pollution and Prevention Plan (SWPPP). The SWPPP will establish BMPs in order to reduce sedimentation and erosion and prevent construction pollutants from leaving the site. The project shall also incorporate all monitoring elements as required in the General Construction Permit. The project applicant shall also develop an erosion and sediment control plan to be reviewed and approved by the City of Newport Beach prior to issuance of grading permit.

SC-19 Future site grading and construction shall comply with the drainage controls imposed by the applicable building code requirements prescribed by the City of Newport Beach.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND analysis, waste discharges associated with this Project that could affect water quality would be limited to non-point source discharges, including potential storm water runoff of construction materials and wastes and storm water runoff from the developed site (City 2010). The Proposed Project would not generate any point sources of water pollution; all wastewater generated by the Proposed Project would discharge directly to the City's sanitary sewer system, which would not affect the present permit to operate the affected wastewater treatment plant. Because the Proposed Project consists of development similar to what was proposed in the 2010 MND, the raw sewage that would be generated by the Proposed Project would be similar in nature to what is currently generated and would not significantly affect wastewater treatment (City 2010).

Potentially adverse water quality impacts during the construction phases would be avoided through compliance with existing regulatory programs administered by the City of Newport Beach and the Santa Ana RWQCB. While it is impossible to anticipate all potential environmental issues that could arise on a daily basis during the course of the Project, the site will be designed to address sediment and erosion control for both construction and operational activities occurring on the subject property. The water quality features incorporated into the Project will be selected to address the main pollutants of concern for a project of this type, and for the impacted water body, the Newport Bay. Newport Bay, which is located approximately 0.5 mile from the site, is listed as an "impaired" water body under Section 303(d) of the Clean Water Act, with respect to copper, nutrients, pathogens, pesticides (e.g., chlordane, DDT, PCBs, etc.), and sediment toxicity.

A WQMP has been updated to reflect the latest project design in November 2021. Implementation of the recommendations from the WQMP during construction and grading activities will maintain compliance with water quality standards during construction (Appendix C). Therefore, a less than significant impact would occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

b) *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any significant impacts to ground water recharge. The Approved Project would not result in a significant increase in water demand and the Approved Project's potable and non-potable water demands would be met through a connection to the City's domestic water system (City 2010). The Approved Project would actually result in some increased groundwater recharge through its design and existing conditions, which includes a decrease in the amount of impervious surfaces, thereby resulting in increased groundwater recharge (Appendix B). No water wells are proposed or required to meet the water demands of this Project (City 2010). There are no water wells located on or near the site, and since this Project would not affect any existing wells or require any new water wells, the Approved Project will not result in the lowering of the water table. A less than significant impact to groundwater recharge is anticipated.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND, the Proposed Project would not result in a significant increase in water demand and the Project's potable and non-potable water demands would be met through a connection to the City's domestic water system (City 2010). The Proposed Project would actually result in some increased groundwater recharge through its design and existing conditions, which includes a decrease in the amount of impervious surfaces, thereby resulting in increased groundwater recharge (Appendix B). No water wells are proposed or required to meet the water demands of this Project (City 2010). There are no water wells located on or near the site, and since this Project would not affect any existing wells or require any new water wells, the Project will not result in the lowering of the water table. No impact to groundwater recharge is anticipated. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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 or through the addition of impervious surfaces, in a manner which would:*

i) *result in substantial erosion or siltation on- or off-site;*

2010 MND Determination: Less Than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to erosion or siltation. As discussed in the 2010 MND, no stream or river exists on site, which is developed with a tennis club and related ancillary facilities (City 2010). Existing surface runoff generated on the subject property is directed through each drainage area to existing on-site storm drain facilities before entering a 69-inch reinforced concrete pipe (RCP) that extends under Coast Highway and to a discharge point in Newport Harbor west of the site, which has been identified as containing "environmentally sensitive areas" as defined by the 2003 Orange County DAMP and the Water Quality Control Plans for the Santa Ana Basin (Appendix C). Although on-site soils would be exposed during grading of the property, a variety of Best Management Practices (BMPs) would be implemented both during construction and during the long-term operation of the Approved Project. Additionally, the Approved Project would be required comply with the current applicable building, grading and water quality codes and policies prior to construction. Therefore, a less than significant impact would occur.

Proposed Project Analysis and Significance Determination: Less Than Significant Impact. Similar to the 2010 MND findings, no stream or river exists on site, and the subject property is developed with a tennis and pickleball club and related ancillary facilities (City 2010). The portion of the property that is the subject of the proposed improvements encompasses less than 7 acres within two catchment areas. Existing surface runoff generated on the subject property is directed through each drainage area to existing on-site storm drain facilities before entering a 69-inch RCP that extends under Coast Highway and to a discharge point in Newport Harbor west of the site, which has been identified as containing “environmentally sensitive areas” as defined by the 2003 Orange County DAMP and the Water Quality Control Plans for the Santa Ana Basin (Appendix C). Although on-site soils would be exposed during grading of the property, a variety of Best Management Practices (BMPs) would be implemented both during construction and during the long-term operation of the Proposed Project. Additionally, the Project would be required comply with the current applicable building, grading and water quality codes and policies prior to construction. Therefore, a less than significant impact would occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

ii) *substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*

2010 MND Determination: Less Than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to flooding. Previously, A hydrology study was prepared for the Approved Project. As indicated above, Project implementation will alter the existing drainage conditions on the site. The development area (i.e., less than 20 acres) is divided into five drainage areas.

According to the existing condition drainage exhibit included in the hydrology study, the Approved Project site consisted of three (3) drainage areas: “C”, “D” and “E”. Drainage Area C encompasses

5.62 acres within the tennis club area in the easterly portion of the property. Surface runoff within Drainage Area C sheet flows over the tennis courts and onto the parking lot; storm flows then sheet flow over the parking lot, through a curb cut-out and into a drainage sump consisting of an 18-inch square inlet. Flows are conveyed from the inlet, via an 8-inch polyvinyl pipe (PVC) pipe, which also connects to the 69-inch RCP. The Q_{25} volume generated in Drainage Area C is 14.27 cubic feet per second (cfs), which enters an existing 8-inch PVC and then a 69-inch RCP. The existing 8-inch PVC pipe that was installed during the Corporate Plaza West Extension is deficient (in size) and cannot efficiently convey storm flows under the existing conditions.

The smalllest drainage area (Drainage Area D) encompasses 0.19 acre in the southeastern corner of the tennis club. Less than 1 cfs (Q_{25}) is directed south where it enters the parking lot of the adjacent commercial office property and is accommodated in the existing storm runoff facilities of that property.

Drainage Area E encompasses 1.24-acres that remain within in the tennis club (six tennis courts and entry to the parking lot). Runoff generated on the property sheet flows over the existing tennis courts into a concrete v-ditch, into a curb and gutter, and finally into a 12-inch inlet. Flows travel from the inlet, via a 12-inch PVC, which transitions to an 18-inch RCP before entering the 24-inch RCP in Coast Highway. All of the surface flows emanating on the site are conveyed in the existing 69-inch RCP that ultimately discharges into Newport Harbor.

Table 13 provides the existing flow conditions from the hydrology study.

Table 13. Existing Flow Conditions

Tributary Area	Area (acres)	Flow (Q) (cfs)
C	5.62	14.27
D	0.19	0.82
E	1.24	4.16
Total (After Confluence)	7.05	19.25

Source: Preliminary Hydrology Report, Adams-Streeter Civil Engineers Inc. July 2009 (City 2010)

For the proposed condition, Drainage Area C will be expanded to encompass 6.16 acres, including some of the existing tennis courts, a new center court, tennis clubhouse, pool, the hotel development, and the residential properties along with interior street and paths. Storm flows for Area C will be captured using a storm drain system comprised of catch basins and pipes ranging in size from eight to 30 inches. Because inadequate storm drain stubs were provided to the Project area (i.e., one 12-inch PVC pipe and one 8-inch PVC pipe), a 3D-inch RCP will be constructed in the parking lot of the adjacent property. This Drainage Area will generate a Q_{25} volume of 20.74 cfs.

Drainage Area D encompasses 0.63 acre in the southeastern corner of the tennis facility. This area will consist of the newly designed and/or reconfigured parking lot for the tennis club. Storm flows emanating in Drainage Area D will sheet flow in a southerly direction to the existing parking lot

located on the adjacent property. Once in the parking lot, it will sheet flow into existing catch basins and into the existing 69-inch RCP. This drainage area will generate a Q_{25} of 2.64 cfs.

Drainage Area E comprises the smallest of the five drainage areas and is located near the southwestern limits of the tennis facility. The 0.19-acre area will generate a storm flow volume of 0.81 cfs (Q25), which would travel to the southwest corner of the site where it would enter a catch basin that will connect to an existing 8-inch PVC pipe that would also connect to the 69-inch RCP south of the subject property. Table 14 shows the post development flows after implementation of the Approved Project.

Table 14. Post-development Flow Conditions

Tributary Area	Area (acres)	Q_{25}(cfs)
C	6.16	20.74
D	0.63	2.64
E	0.19	0.81
Total (After Confluence)	6.98	24.19

Source: Preliminary Hydrology Report, Adams-Streeter Civil Engineers Inc. July 2009 (City 2010)

The Approved Project implementation would result in an increase of approximately 25.6 percent in storm surface runoff volume. Although the land use for the Approved Project has a lower runoff coefficient than that under existing conditions, the overall flow volumes have increased as a result of the lower time of concentration that occurs when the storm flows are routed in a pipe versus sheet flow under existing conditions. As indicated above, Approved Project implementation will result in an increase of 4.94 cfs entering the 69-inch RCP that will convey the storm flows to Newport Harbor. This increase in runoff equates to a 1.1 percent increase in the existing 462 cfs that currently flows in this facility. Because the time of concentration within the 69- inch RCP is much greater than the site's contribution in flow, the increased runoff generated by the Approved Project would be negligible and, therefore, would not have a significant impact on the existing storm drain facilities.

The site will be graded and designed to facilitate post-development storm flows. Therefore, no significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less Than Significant Impact. A hydrology study has been prepared for the Project and was updated in November 2021, as part of the latest Project design updates and is provided as Appendix B. As indicated above, Project implementation will alter the existing drainage conditions on the site. The development area is divided into two catchment areas, "A" and "B". Area "A" is the largest area of the site, consisting of about 5.68 acres, and is comprised of the tennis courts, interim-use pickleball courts, tennis club house, and parking lot. The drainage flows southerly from the tennis courts, then through the parking lot, before being intercepted by an 18" inlet at the southwest corner of the Project site. A 12" PVC pipe connects this inlet to a 69" storm drain system. Area "B" is on the westerly

portion of the property, consisting of 1.29 acres. Area "B" is comprised of the remaining tennis courts and entry to the parking lot. The drainage flows southerly from the tennis courts, and onto the curb and gutter of the entry roadway to the parking lot. A 12" inlet intercepts the drainage near the entry to the parking lot. A 12" PVC pipe connects this inlet to an 18" RCP storm drain, which ultimately connects to the same 69" RCP storm drain as Area "A". Table 5-10 provides the existing flow conditions from the hydrology study; the updated Hydrology study included an additional level of analysis Q_{100}.

Table 5-10 – Existing Flow Conditions

Tributary Area	Area (acres)	Q_{25}(cfs)	Q_{100}(cfs)
A	5.68	16.31	21.39
B	1.29	4.53	5.82
Total (After Confluence)	6.97	20.02	26.25

Source: Hydrology Study, Land Strategies November 2021 (Appendix B)

Once developed Area "A" will consist of the new single-family homes, hotel development, and new center tennis court. Storm drainage for Area "A" will be captured using a storm drain system comprising of catch basins and pipes. The proposed storm drain system will be installed within the site's interior street and will connect to a proposed Modular Wetlands System for water quality treatment before connecting to the existing 69" RCP storm drain system.

Area "B" at 2.56 acres consists of the existing tennis courts and pickleball courts to remain, tennis club house, pool, and parking lot. Storm drainages are collected via a system of catch basins and pipe system which conveys it to the aforementioned Modular Wetlands System for water quality treatment before connecting to the existing 69" RCP storm drain system. Table 5-11 shows the post development flows after implementation of the Proposed Project.

Table 5-11 – Post-development Flow Conditions

Tributary Area	Area (acres)	Q_{25}(cfs)	Q_{100}(cfs)
A	4.41	13.20	17.04
B	2.56	7.72	9.93
Total (After Confluence)	6.97	20.66	26.67

Source: Hydrology Study, Land Strategies November 2021 (Appendix B)

Run off rates are very similar to the existing conditions, and while the rates are higher than existing, the difference is considered insignificant. Flows from both tributary areas would reach the 69" storm drain before the peak flow in the pipe arrives, and total contribution from the property would be less than 4% of the peak flow in the mainline. A full discussion on compatibility with policies related to water quality and pollution is provided in Section 5.11, Land Use and Planning. Therefore, impacts would be less than significant. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources or polluted runoff; or

2010 MND Determination: Less Than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to stormwater systems. The Approved Project implementation was determined to result in a decrease in impervious surfaces on the site, additional surface runoff would be generated (see 5.10.1 c. ii). The existing storm drainage collection and conveyance facilities within the Project area (i.e., 18- and 24-inch pipes previously described) will be upgraded as determined necessary to provide adequate capacity to accommodate the Approved Project. No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less Than Significant Impact. Similar to the 2010 MND, Project implementation will result in a decrease in impervious surfaces on the site, additional surface runoff would be generated (see 5.10.1 c. ii). With the post development reduction in imperious surfaces, stormwater runoff would still increase by 0.64 and 0.42 cfs during 25-year and 100-year storm events (Appendix B). The existing storm drainage collection and conveyance facilities within the Project area will be upgraded as determined necessary to provide adequate capacity to accommodate the Proposed Project. Therefore, a less than significant impact would occur, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

iv) impede or redirect flood flows?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts to flood flows. The Approved Project is not located within the 100-year flood plain as delineated on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA) for the City of Newport Beach. The site is located in Zone X (Other Areas), which is classified by FEMA as “Areas determined to be outside the 0.2 percent annual chance floodplain." During a 100-year storm, the site would be protected from flooding, as the water surface for all street flows would remain within the gutter and street; average depth of flow for the entire site is less than one foot. As a result, no homes would be placed within the 100-year flood plain and no significant impacts would occur.

Proposed Project Analysis and Significance Determination: No Impact. The Project site is not located within the 100-year flood plain as delineated on the Flood Insurance Rate Map (FIRM) by the FEMA for the City of Newport Beach (City 2019). The site is located in Zone X, Areas of Minimal Flood Hazard. During a 100-year storm, the site would be protected from flooding, as the water surface for all street flows would remain within the gutter and street; average depth of flow for the entire site is less than one foot. Secondary overflow for the site is provided by out letting through the site’s interior streets to the exit on Coast Highway. As a result, no homes would be placed within the 100-year flood plain and no significant impacts would occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result significant impacts to the release of pollutants. The Project site is located inland of Coast Highway and is not within the area of influence of Newport Harbor area. Tsunamis (i.e., seismic sea waves) are generated on offshore faults by movement that is primarily vertical in nature. The subject property is not within a Tsunami Hazard Zone illustrated on Figure S1 (Coastal Hazards) in the City's Safety Element (City 2010). According to that figure, in the event of a tsunami, surge waves would threaten the lower elevations along the Newport Beach coastline and in Newport Bay; however, the Project site is not subject to the effects of a tsunami.

Seiche is defined as a standing wave oscillation effect generated in a closed or semi-closed body of water caused by wind, tidal current, and earthquake. Seiche potential is highest in large, deep, steep-sided reservoirs or water bodies. The nearest such water bodies include San Joaquin Reservoir, which is located approximately two miles northeast of the site and Big Canyon Reservoir, located approximately one mile east-northeast of the subject property. The subject property is located well beyond the area that could potentially be inundated as a result of a seiche (City 2010). In addition, Newport Bay, which is located approximately one-half mile east of the Project area, lacks significant potential for damaging seiche because it is very shallow.

Due to the elevation and location of the Approved Project, risk of pollutant release from tsunami or seiche is minimal. As a result, less than significant impacts would occur.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND analysis, the Project site is located inland of Coast Highway and is not within the area of influence of Newport Harbor area. Tsunamis (i.e., seismic sea waves) are generated on offshore faults by movement that is primarily vertical in nature. The subject property is not within a Tsunami Hazard Zone illustrated on Figure S1 (Coastal Hazards) in the City's Safety Element (City 2010). According to that figure, in the event of a tsunami, surge waves would threaten the lower elevations along the Newport Beach coastline and in Newport Bay; however, the Project site is not subject to the effects of a tsunami.

Seiche is defined as a standing wave oscillation effect generated in a closed or semi-closed body of water caused by wind, tidal current, and earthquake. Seiche potential is highest in large, deep, steep-sided reservoirs or water bodies. The nearest such water bodies include San Joaquin Reservoir, which is located approximately two miles northeast of the site and Big Canyon Reservoir, located approximately one mile east-northeast of the subject property. The subject property is located well beyond the area that could potentially be inundated as a result of a seiche (City 2010). In addition, Newport Bay, which is located approximately one-half mile east of the Project area, lacks significant potential for damaging seiche because it is very shallow.

Due to the elevation and location of the Proposed Project, risk of pollutant release from tsunami or seiche is minimal. As a result, less than significant impact would occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

e) *Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in significant impacts to water quality or groundwater management plans. The Approved Project would comply with the NPDES permit and would implement BMPs to reduce any impacts associated with water quality to less than significant (City 2010). Additionally, the Approved Project would not include activities that would impact or modify groundwater resources. The Orange County Water District (OCWD) Groundwater Management Plan manages the Orange County Groundwater Basin. The Approved Project would not be located within any sampling wells or groundwater replenishment systems. Thus, the Approved Project would comply with applicable water quality or groundwater management plans, and a less than significant impact would occur.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the MND 2010 Project, the Proposed Project would comply with the NPDES permit and would implement BMPs to reduce any impacts associated with water quality to less than significant (City 2010). Additionally, the Proposed Project would not include activities that would impact or modify groundwater resources. The OCWD Groundwater Management Plan manages the Orange County Groundwater Basin. The Proposed Project would not be located within any sampling wells or groundwater replenishment systems. Thus, the Proposed Project would comply with applicable water quality or groundwater management plans. No new impacts would occur and less than significant impacts would be expected. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to hydrology and water quality would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.11 LAND USE AND PLANNING

11.	LAND USE/PLANNING Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Physically divide an established community?	☐	☐	☐	☒

(b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

5.11.1 Impact Analysis

a) Would the project physically divide an established community?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any significant impact associated with division of established communities. As discussed in the 2010 MND subject site was developed with tennis facilities. The 2010 MND analyzed modifications to the existing Tennis Club on the subject property. The area surrounding the subject property is entirely developed with mixed-use development, including residential, professional office, and commercial uses. Development of the site as proposed in the 2010 MND would not directly impact adjacent properties because it was consistent with the applicable development standards and requirements for site development as prescribed in the proposed Planned Community District development regulations. In particular, the Approved Project would not include features that would physically divide or otherwise adversely affect or change an established community.

Proposed Project Analysis and Significance Determination: No Impact. As discussed in the 2010 MND subject property is currently developed with tennis facilities with interim-use pickleball courts. The Proposed Project includes the construction of modifications to the existing tennis club including providing additional hotel and residential uses beyond what was analyzed in the 2010 MND. The area surrounding the subject property includes residences, and office development, and the Newport Beach Country Club Golf Course (City 2010). Development of the site as proposed in the Project amendments would not directly affect adjacent properties, as it is consistent with the applicable development standards and requirements for site development as prescribed in the Planned Community District development regulations. In particular, Project implementation does not include features that would physically divide or otherwise adversely impact or change an established community (e.g., roadways, flood control channels, etc.) as the proposed increase in development is located within the same project site/boundary of Approved Project. As a result, no impact would occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

2010 MND Determination: Less than Significant Impact. The Newport Beach General Plan, the Coastal Land Use Plan, and the Newport Beach Zoning Code, contain land use plans, policies, and regulations of concern with respect to avoiding or mitigating an environmental effect.

The 2010 MND concluded that the uses associated with the Approved Project would be consistent with the applicable plans including the general plan, zoning, and the Local Coastal Program. No component of the Approved Project, once operational, would have the potential to conflict with adjacent land uses. Therefore, a less than significant impact would occur.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Proposed Project implementation will necessitate a General Plan amendment, Local Coastal Program Implementation Plan amendment and Newport Beach Country Club Planned Community Development Plan (PC-47) amendment to allow an increase in the development intensity on the Project site by 14 additional pickleball courts (with a reduction in the number of tennis courts from seven to four) and 14 hotel rooms for a total of 41 rooms with additional square footage for related ancillary uses. No changes to the overall number of approved residential units proposed. However, three of the five single-family dwelling units will be converted to condominiums. The Newport Beach General Plan, the Coastal Land Use Plan, the Newport Beach Zoning Code, Local Coastal Program Implementation Plan, and PC-47 contain land use plans, policies, and regulations of concern with respect to avoiding or mitigating an environmental effect. Consistency of the Proposed Project with applicable provisions and/or policies of the relevant Elements of the General Plan and Coastal Land Use Plan are addressed in Table 5-12.

Table 5-12 – General Plan Policy Analysis

Policy No.	General Plan Policy*	Consistency Analysis
Land Use Element		
LU 1.1	Maintain and enhance the beneficial and unique character of the different neighborhoods, business districts, and harbor that together identify Newport Beach. Locate and design development to reflect Newport Beach's topography, architectural diversity, and view sheds.	The Proposed Project includes an amendment to the PC-47 District regulations on Tennis Club site, to reflect the proposed project development, which will continue to guide development occurring within the Project site. The development standards address building height, setbacks, landscaping, architectural character, etc., and are intended to ensure that the City's unique character which reflects both land use and architectural diversity, is maintained.
LU 1.2	While recognizing the qualities that uniquely define its neighborhoods and districts, promote the identity of the entire City that differentiates it as a special place within the Southern California region.	The area in which in the subject site is located is characterized by a variety of residential, office, commercial, and recreation land uses that reflect a range of architectural styles, which contribute to the unique character of the City. The intensity of the Proposed Project and architectural character are compatible with the variety of densities and styles within the area, which is consistent with the "identity" of the City. The architectural character of the Proposed Project, including bungalow-style hotel rooms and detached residential units, and attached residential loft buildings, is consistent with the City's desire to differentiate Newport Beach from other coastal cities.
LU 2.1	Accommodate uses that support the needs of Newport Beach's residents including housing, retail, services, employment, recreation, education, culture, entertainment, civic engagement, and social and spiritual activity that are in balance with community natural resources and open spaces.	The Proposed Project will continue to provide residents with recreational opportunities, culture, entertainment, and civic engagement. The proposed amendment remains in supportive of recreation use by providing the reduction of three tennis courts and addition of 14 pickleball courts to the previously approved tennis club which included seven courts, and addition of 14 hotel

Policy No.	General Plan Policy*	Consistency Analysis
		rooms and also proposes to create to the approved 27-unit boutique hotel development with additional hotel amenities for club members such as a Performance Therapy Center, Yoga Pavilion and a Spa and Fitness Center.
LU 2.6	Provide uses that serve visitors to Newport Beach's ocean, harbor, open spaces, and other recreational assets, while integrating them to protect neighborhoods and residents	The Proposed Project provides visitors with an updated recreational facility as it includes a new tennis clubhouse, 4 tennis courts, and 14 pickleball courts, two of which are located in a new stadium. The tennis club is adjacent to a golf club and is within 2,000 feet from the Newport Bay. The proposed 41 hotel rooms provide additional opportunities for visitors to enjoy the tennis club and nearby recreational activities.
LU 3.2	Enhance existing neighborhoods, districts, and corridors, allowing for reuse and infill with uses that are complementary in type, form, scale, and character. Changes in use and/or density/intensity should be considered only in those areas that are economically under performing, are necessary to accommodate Newport Beach's share of projected regional population growth, improve the relationship and reduce commuting distance between home and jobs, or enhance the values that distinguish Newport Beach as a special place to live for its residents. The scale of growth and new development shall be coordinated with the provision of adequate infrastructure and public services, including standards for acceptable traffic level of service.	The character of the tennis club, residential units, and the hotel development, is compatible with the existing land uses and development intensities of the Project area. Additionally, the existing land uses are allowed under the existing General Plan, although the additional hotel rooms and pickleball courts will require amendments to adopted plans and regulations, which is included in the Project application. The Proposed Project has been designed to be compatible with the existing residential, commercial, and recreation that exists in the vicinity of the Project site. In addition, the area in which the Project is located is adequately served by existing infrastructure, including circulation, water, sewer, and storm drainage systems. As a result, Project implementation will not adversely affect those systems or the provision of adequate service to nearby development.
LU 3.3	Provide opportunities for improved development and enhanced environments for residents in the following districts and corridors, as specified in Polices 6.3.1 through 6.22.7: Fashion Island/Newport Center: expanded retail uses and hotel rooms and development of residential in proximity to jobs and services, while limiting increases in office development	The Proposed Project would provide 41 new hotel rooms in proximity to Fashion Island and would also provide 5 dwelling units in close proximity to the existing retail and office developments.
LU 4.1	Accommodate land use development consistent with the Land Use Plan.	The uses proposed by the applicant are consistent with the General Plan Land Use Element (i.e., land use designation), which designates the subject property as MU-H3/PR. The subject property is located within Anomaly 46, which allocates 24 tennis courts with residential permitted in

Policy No.	General Plan Policy*	Consistency Analysis
		accordance with the MU-H3 designation. The GP Amendment includes an amendment to the Development Limit (Other) of Anomaly 46, to reduce the number of tennis courts to 4, add 14 pickleball courts and to include 41 hotel rooms. The additional requested hotel rooms beyond what was included in the Approved Project.
LU 5.1.2	Require that the height of development in nonresidential and higher density residential areas transition as it nears lower density residential areas to minimize conflicts at the interface between the different types of development.	Although the site is not located adjacent to lower density residential development (e.g., single family detached), the Project has been designed to respect the proximity of the existing residential development adjacent to the Project site. Specifically single-family residential development and condominiums are proposed in the area nearest to the existing residential development to buffer the private recreation uses of the Tennis Clubhouse. In addition, the proposed PC-47 District text and regulations prescribe maximum building heights and setback requirements, etc., for each of the development components to ensure land use compatibility. Although the PC-47 regulations limit the maximum building height of a structure to 50 feet, building heights for the proposed structures will range from 31 feet for the hotel complexes, to 39 feet for the detached residential units, 46 feet for the attached residential loft buildings, and 30 feet for the tennis clubhouse.
LU 5.3.3	Require that properties developed with a mix of residential and non-residential uses be designed to achieve high levels of architectural quality in accordance with Policies 5.1.8 and 5.2.2. and planned to assure compatibility among the uses and provide adequate circulation and parking. Residential uses should be seamlessly integrated with non-residential uses through architecture, pedestrian walkways, and landscape. They should not be completely isolated by walls or other design elements.	The Proposed Project includes three fewer tennis courts but 14 additional pickleball courts to the tennis and pickleball club, 41 short-term visitor-serving rooms (bungalows), 2 single family residences, and 3 condominium units. The Proposed Project provides adequate parking for each of the proposed uses. Vehicular and pedestrian circulation has been designed to accommodate residents, as well as guests and members of the tennis club/spa and hotel development. The architectural character of the uses is defined in the PC-47 District Regulations to ensure that compatibility between proposed uses and the nearby areas is maintained.
LU 5.3.4	Require that sufficient acreage be developed for an individual use located in a district containing a mix of residential and non-residential uses to prevent fragmentation and assure each use's viability, quality, and compatibility with adjoining uses.	Each of the uses has been designed to complement the overall development proposed by the applicant. The uses are connected by the vehicular and pedestrian circulation system, including sidewalks and pedestrian pathways. Land use compatibility is achieved through a common landscape theme and design guidelines in the PC-47 to ensure that the architectural

Policy No.	General Plan Policy*	Consistency Analysis
		integrity of the Proposed Project is not compromised.
LU 6.14.2	Provide the opportunity for limited residential, hotel, and office development in accordance with the limits specified by Tables LU1 and LU2.	The Project proposes a mix of land uses including single-family residential, condominium, tennis facilities, and visitor-serving commercial uses. These uses are permitted in Table LU1. Residential development is permitted in Anomaly 46, as reflected in Table LU2. The general plan amendment proposes to amend the development limits of Table LU2 to include 4 tennis courts, 14 pickleball courts, and 41 hotel rooms.
LU 6.14.6	Encourage that pedestrian access and connections among uses within the district be improved with additional walkways and streetscape amenities concurrent with the development of expanded and new uses.	The Proposed Project provides for both pedestrian and vehicular access within the subject property. Sidewalks and pedestrian pathways are incorporated into the circulation system that are intended to accommodate pedestrians utilizing the tennis/spa facilities as well as the future residents of the proposed residential component. The landscape plan includes plant materials that are intended to reflect and complement the existing character within the Project area.
Housing Element		
H 1.1.1	Support all reasonable efforts to preserve, maintain, and improve availability and quality of existing housing and residential neighborhoods, and ensure full utilization of existing City housing resources for as long into the future as physically and economically possible.	The subject property does not include any existing housing. The five residential units that was authorized by the General Plan, were entitled for the development per the Approved Project. The applicant is proposing to convert 3 of semi-custom, residential dwelling units to condominium units. There is no change proposed to the overall unit count analyzed and authorized as part of the Approved Project. These dwelling units will remaining supplement the City's housing supply.
H 3.2	Enable construction of new housing units sufficient to meet City quantified goals by identify adequate sites for their construction.	The Proposed Project includes proposed residential and hotel uses, which would be in compliance with this policy.
H 4.2	Improve energy efficiency of all housing unit types (including mobile homes).	The Proposed Project is required to comply with the 2019 California Green Building Standards Code Title 24 Part 11 for new development.
Historical Resources Element		
HR 2.1	Require that, in accordance with CEQA, new development protect and preserve paleontological and archaeological resources from destruction, and avoid and mitigate impacts to such resources. Through planning policies and permit conditions, ensure the preservation of significant archaeological and paleontological resources and require	Although it is unlikely that archaeological and/or paleontological resources would be encountered during grading and/or construction, the City requires that a certified archaeological/paleontological monitor be available during grading to ensure that if such resources are encountered, grading activities can be diverted in order to evaluate the resources and

Policy No.	General Plan Policy*	Consistency Analysis
	that the impact caused by any development be mitigated in accordance with CEQA.	recommend appropriate measures to protect and/or preserve them.
Circulation Element		
CE 7.1.1	Require that new development provide adequate, convenient parking for residents, guests, business patrons, and visitors.	The Proposed Project provides adequate parking as demonstrated in the Traffic and Parking Evaluation prepared by LSA and prescribed in the PC-47 District regulations for the Project. The Project requires a total of 131 parking spaces and provides 131 parking spaces.
CE 7.1.8	Site and design new development to avoid use of parking configurations or management programs that are difficult to maintain and enforce.	As indicated above, the onsite parking provided totals 131 parking spaces, including 72 spaces that are allocated the Tennis Clubhouse (72 required), and 41 parking spaces for the hotel units/spa (41 required). In addition, 18 parking spaces are also proposed to accommodate the 5 residential units (18 required).
Recreation Element		
R 1.1	Require developers of new residential subdivisions to provide parklands at five acres per 1,000 persons, as stated in the City's Park Dedication Fee Ordinance, or contribute in-lieu fees for the development of public recreation facilities meeting demands generated by the development's resident population, as required in the City's Park Dedications Fee Ordinance.	The Proposed Project includes the development of two semi-custom, single-family residential dwelling units and three condominium residential dwelling units. The residential component of the Proposed Project would be subject to the City's Park Dedication Fee Ordinance. It is anticipated that the applicant will be required to pay the applicable in-lieu fee.
Natural Resources Element		
NR 1.2	Establish and actively promote use of water conserving devices and practices in both new construction and major alterations and additions to existing buildings. This can include the use of rainwater capture, storage, and reuse facilities.	Water conservation measures will be required to be incorporated into the Proposed Project as prescribed in Chapter 14.16 (Water Conservation and Supply Level Regulations) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. Finally, the BMPs are intended to meet the requirements prescribed in Chapter 14.36 (Water Quality).
NR 3.4	Require all development to comply with the regulations under the City's municipal separate storm drain system permit under the National Pollutant Discharge Elimination System (NPDES).	The Project applicant will be required to comply with the NPDES requirements established by the City, including the preparation of a SWPPP to address construction activities and a WQMP for long-term operations of the Project.
NR 3.5	Require that development does not degrade natural water bodies.	As indicated above, the Proposed Project will implement BMPs to improve the quality of both construction-related and long-term runoff emanating from the site prior to their discharge into Newport Harbor.
NR 3.9	Require new development applications to include a Water Quality Management Plan (WQMP) to minimize runoff from rainfall events during construction and post-construction.	Refer to Response to Policy No. NR 3.4.

Policy No.	General Plan Policy*	Consistency Analysis
NR 3.11	Include site design and source control BMPs in all developments. When the combination of site design and source control BMPs are not sufficient to protect water quality as required by the NPDES, structural treatment BMPs will be implemented along with site design and source control measures.	The Proposed Project complies with the requirement to prepare a SWPPP and WQMP to address both construction and post-development water quality impacts. Both site design and structural BMPs will be incorporated into the Project to ensure that surface flows emanating from the subject property are treated prior to their discharge into Newport Harbor. The SWPPP and WQMP will be sufficient to protect water quality as prescribed by the NPDES requirements of the City.
NR 4.4	Require grading/erosion control plans with structural BMPs that prevent or minimize erosion during and after construction for development on steep slopes, traded, or disturbed area.	As required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish both structural and non-structural BMPs in order to reduce sedimentation and erosion during the construction phase. These measures will be incorporated in the grading/erosion control plan (refer to SC-10) submitted to the City of Newport Beach. In addition, the applicant has prepared a WQMP to address post-development water quality impacts.
NR 8.1	Require developers to use and operate construction equipment, use building materials and paints, and control dust created by construction activities to minimize air pollutants.	The Proposed Project will comply with all South Coast AQMD rules and requisite local, State, and federal requirements to reduce air pollutant emissions during construction.
NR 18.1	Require new development to protect and preserve paleontological and archaeological resources from destruction, and avoid and minimize impacts to such resources in accordance with the requirements of CEQA. Through planning policies and permit conditions, ensure the preservation of significant archaeological and paleontological resources and require that the impact caused by any development be mitigated in accordance with CEQA.	Refer to Response to Policy No. HR 2.1.
NR 18.3	Notify cultural organizations including Native American organizations, of proposed development that have the potential to adversely impact cultural resources. Allow qualified representative of such groups to monitor grading and/or excavation of development sites.	Because implementation of the Proposed Project requires the approval of an amendment to the Land Use Element of the Newport Beach General Plan, it is subject to the provisions of SB 18, which requires consultation with Native American representatives before adopting or amending general plan. The City has complied with the requirements of SB 18 by submitting a request to the Native American Heritage Commission (NAHC). In addition, the City also sent letters and emails to the Native American representatives, informing each of the Proposed Project. The City

Policy No.	General Plan Policy*	Consistency Analysis
		conducted consultation with the two tribes that requested formal consultation efforts, and MM-1 has been included as a result of this consultation.
NR 18.4	Require new development, where on site preservation and avoidance are not feasible, to donate scientifically valuable paleontological or archaeological materials to a responsible public or private institution with a suitable repository, located within Newport Beach or Orange County, whenever possible.	Refer to Response to Policy HR 2.1.
NR 20.1	Protect and, where feasible, enhance significant scenic and visual resources that include open space, mountains, canyons, ridges, ocean, and harbor from public vantage points, as shown in Figure NR3.	Project implementation will not result in any significant visual impacts to the segment of Newport Center Drive north of Farallon, which is designated as a Coastal View Road, or to the Public View Point identified in Irvine Terrace Park located south of East Coast Highway. Views from vantages along Newport Center Drive will not be significantly altered as a result of Project implementation. The development would not be visible from this Coastal View Road because of the landscaping that exists along the roadway, which blocks and/or filters views to the subject property.
NR 20.3	Protect and enhance public view corridors from the following roadway segments (shown in Figure NR3), and other locations may be identified in the future (Newport Center Drive).	Refer to Response to Policy No. NR 20.1.
NR 22.1	Continue to regulate the visual and physical mass of structures consistent with the unique character and visual scale of Newport Beach.	The building mass and architectural character of the Proposed Project will be regulated through the PC-47 regulations. The City will ensure that these regulations do not compromise the unique aesthetic character of the City.
Safety Element		
S 4.7	Conduct further seismic studies for new development in areas where potential active faults may occur.	The proposed structures will be designed in accordance with current adopted codes and regulations, including the California Building Code, which prescribe the design standards for new development to protect life and property. In addition, site and structural design recommendations are also included in the Preliminary Geotechnical Report prepared for the Approved Project that was incorporated into the Proposed Project.
Noise Element		
N 1.1	Require that all proposed projects are compatible with the noise environment through use of Table N2, and enforce the interior and exterior noise standards down in Table N3.	The proposed uses, including the tennis and pickleball club, hotel development, and residential units are consistent with the noise parameters prescribed in Table N2 and Table N3. The residential uses will not be subject to exterior

Policy No.	General Plan Policy*	Consistency Analysis
		noise levels that exceed 60 dBA Leq from 7am to 10pm 50 dBA Leq from 10pm to 7am and interior noise levels would not be subjected to noise levels that exceed 45 dBA Leq from 7am to 10pm and 40 dBA Leq from 10pm to 7am.
N 1.4	Require that applicants of residential portions of mixed-use projects and high density residential developments in urban areas (such as the Airport Area and Newport Center) demonstrate that the design of the structure will adequately isolate noise between adjacent uses and units (common floor/ceilings) in accordance with the California Building Code.	As indicated in the noise analysis prepared for the Proposed Project (refer to Section XII) Project activities will entail the continuation of long-standing outdoor tennis and pickleball uses and limited indoor activities. Outdoor recreational activities represent the continuation of existing activities, which are compatible with the nearby residential and non-residential development in the Project environs. Although some noise is associated with tennis and pickleball activities, in particular, with the installation of the sound barriers, the noise would not be disruptive or incompatible with the existing uses. Furthermore, the proposed residential component is not located adjacent to Coast Highway or other high-volume arterials that would generate noise levels that exceed exterior and/or interior standards. Therefore, no significant long-term noise impacts would occur.
N 1.6	Encourage new mixed-use developments to site loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development.	No loading docks or other high noise generating features are located in proximity to the proposed residential portion of the development. A mitigation measure requires that HVAC equipment in or adjacent o residential areas must not exceed applicable noise levels as required by the City of Newport Beach.
N 1.8	Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting noise sensitive uses.	Noise mitigation have been prescribed to ensure that construction noise impacts are reduced to a less than significant level. In addition, proper siting of HVAC equipment will reduce operational noise levels in the residential area in compliance with this policy.
N 4.1	Enforce interior and exterior noise standards outlined in Table N3, and in the City's Municipal Code to ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources, such as heating, ventilation, and air conditioning equipment.	The noise sensitive receptors (i.e., residents of the proposed residential units) would be protected from excessive interior and exterior noise levels through compliance with the noise standards adopted by the City and presented in Table N3 of the Noise Element. Both interior and exterior noise levels will comply with the adopted standards.
N 4.3	Require that new commercial developments abutting residentially designated properties be designed to minimize noise impacts generated by loading areas, parking lots,	No loading docks or other high noise generating features are located in proximity to the proposed detached residential units. The hotel buildings adjacent to the detached residential units would

Policy No.	General Plan Policy*	Consistency Analysis
	trash enclosures, mechanical equipment, and any other noise generating features specific to the development to the extent feasible.	be designed to place the ancillary services away from the detached residential units and minimize noise impacts on residents.
N 4.6	Enforce the Noise Ordinance noise limits on hours of maintenance or construction activity in or adjacent to residential areas, including noise that results from in-home hobby or work-related activities.	Construction hours will comply with the limits established by the City of Newport Beach and prescribed in the Noise Ordinance. In addition, operational noise associated with the proposed tennis facility would also be regulated by the City's Noise Ordinance.
N 5.1	Enforce the limits on hours of construction activity.	Construction hours will be limited to those stipulated in the City's Noise Ordinance, which will be strictly enforced by the City of Newport Beach.

Because the Project is not located within the harbor area, policies articulated in the Harbor and Bay Element are not applicable.

Table 5-13 – Coastal Land Use Plan Policy Analysis

Policy No.	CLUP Policy	Consistency Analysis
	Land Use	
2.1.2-1	Development in each district and corridor shall adhere to policies for land use type and density/intensity contained in Table 2.1.1-1, except as modified in Sections 2.1.3 to 2.1.8.	The MU-H3/PR designation allows horizontally-distributed mix of uses, which may include general or neighborhood commercial, commercial offices, multi-family residential, visitor-servicing and marine-related uses, buildings that vertically integrate residential with commercial uses, and active public or private recreational uses, including parks, golf courses, marina support facilities, aquatic facilities, tennis clubs and courts, private recreation, and similar facilities. The Proposed Project is consistent with the land use designation on the adopted Coastal Land Use Plan, which designates the subject property MU-H3/PR (Mixed Use Horizontal 3/Parks & Recreation). The Proposed Project includes a mixture of uses which include a tennis clubhouse, 14 pickleball courts, and 4 tennis courts, 41 hotel rooms and ancillary uses, and five residential units which are all intended to provide an updated recreation facility to serve the residents and visitors of the City. The residential units will supplement the City's housing supply.
2.1.8-1	Allow the horizontal intermixing of short-term rental units and single-family homes with the expanded tennis club faculties. Permitted uses include those permitted by the MU-H and PR categories	Project implementation would create 41 new short-term rental rooms, and 5 residential units within the development.

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General Development Policies		
2.2.1-1	Continue to allow development and infill development within and adjacent to the existing developed areas in the coastal zone subject to the density and intensity limits and resources protection policies of the Coastal Land Use Plan.	Project implementation will result in some intensification of the development that exists within the limits of the Planned Community. As previously indicated, the Proposed Project requires a General Plan Amendment due to the exceedance in the intensity of development allocated in the General Plan. Because the Proposed Project would result in the redevelopment of existing uses, Project implementation would not adversely affect any coastal resources and development is consistent with applicable coastal resource policies.
2.2.1-2	Require new development be located in areas with adequate public services or in areas that are capable of having public services extended or expanded without significant adverse effects on coastal resources.	The Proposed Project is located in the City of Newport Beach that is adequately served by a range of public services and utilities, including police and fire protection; circulation; sewer, water, and storm drains; and electricity and natural gas. Adequate service will continue to be provided to the proposed uses. The provision of those public services and utilities will not result in any significant adverse effects on coastal resources.
Residential Development		
2.7-1	Continue to maintain appropriate setbacks and density, floor area, and height limits for residential development to protect the character of established neighborhoods and to protect coastal access and coastal resources.	The PC-47 is already in place with development regulations prescribe the development standards for both residential and non-residential land uses proposed for the Project. The amendment to PC-47 would provide additional standards for the proposed attached residential units. Similar to building height, the front, rear, and side yard setbacks will vary to each other and to existing residential development to the northeast, which are two and three stories in height.
Hazards and Protective Devices		
2.8.7-2	Require new development to provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner in order to minimize hazards resulting from increased runoff, erosion and other hydrologic impacts to streams.	The Project site is not located in the vicinity of a stream. However, as required by the NPDES permit, a SWPPP will be prepared and will establish both structural and nonstructural BMPs in order to reduce sedimentation and erosion during the construction phase. These measures will be incorporated in the grading/erosion control plans submitted to the City of Newport Beach.
2.8.7-3	Require applications for new development, where applicable (i.e., in areas of known or potential geologic or seismic hazards), to include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed	With the exception of the potential effects of moderate to strong seismic shaking, the subject property is not located in an area characterized by potential coastal hazards. Preliminary geotechnical design parameters for the Proposed Project have been recommended based on subsurface exploration and laboratory testing of the site soils. The proposed structures will be constructed based on those design parameters.

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	development and that the development will be safe from geologic hazard. Require Engineering Geologist or Geotechnical Engineer and subject to review approval by the City.	
Transportation		
2.9.3-1	Site and design new development to avoid use of parking configurations or parking management programs that are difficult to maintain and enforce.	The Proposed Project includes adequate parking to accommodate all the proposed uses, including the tennis and pickleball club and its clubhouse, hotel development, and residential units. A total of 131 parking spaces is provided in the plan, including 72 spaces that are allocated to the Tennis & Pickleball Club (72 required), and 41 parking spaces for the hotel and ancillary uses (41 required). In addition, 18 parking spaces are also proposed to accommodate the residential units (18 required). The Proposed Project will meet the number of parking spaces required by the proposed PC-47 District parking requirements.
2.9.3-2	Continue to require new development to provide off-street parking sufficient to serve the approved use in order to minimize impacts to public on-street and off-street parking available for coastal access.	The Proposed Project provides adequate parking as demonstrated in the Traffic and Parking Analysis Memo prepared by LSA and reflected in the PC-47 district regulations. No impacts to coastal access are anticipated.
2.9.3-3	Require that all proposed development maintain and enhance public access to the coast by providing adequate parking pursuant to the off-street parking regulations of the Zoning Code in effect as of October 13, 2005.	Refer to Policy 2.9.3-1.
2.9.3-5	Continue to require off-street parking in new development to have adequate dimensions, clearances, and access to insure their use.	The parking provided meets the minimum requirements for dimensions and clearance; access to the parking is adequate. Parking spaces would be provided adjacent to the tennis clubhouse, as well as adjacent and within hotel buildings and residential units. The drive aisles have proper dimensions to provide adequate room for circulation, turning, and backing.
Water Quality		
4.3.1-6	Require grading/erosion control plans to include soil stabilization on graded or disturbed areas.	The Project applicant is required to prepare and implement BMPs pursuant to the SWPPP that will be required prior to the issuance of the grading permit for the Proposed Project. Implementation of these construction BMPs will ensure that grading/erosion control measures are implemented. These measures are intended to minimize erosion and stabilize the site during grading. As indicated above, the applicant will also be required to implement BMPs to ensure that

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		point source and non-point source pollutants are minimized.
4.3.1-7	Require measures to be taken during construction to limit land use disturbance activities such as clearing and grading, limiting cut-and-fill to reduce erosion and sediment loss, and avoiding steep slopes, unstable areas, and erosive soils. Require construction to minimize disturbance to natural vegetation, including significant trees, native vegetation, root structures, and other physical or biological features important for preventing erosion or sedimentation.	In accordance with the WQMP and SWPPP requirements, BMPs will be required as part of the Project's development in order to ensure that the potential discharge of pollutants of concern is minimized. The NPDES Technical Study prepared for the Project identifies a range of potential BMPs that are intended to minimize erosion associated with water and wind. Several potential erosion control measures have been identified, including the use of hydroseeding, hydromulch, preservation of existing vegetation, scheduling of construction to avoid the climatic conditions that contribute to potential erosion, soil binders, velocity dissipation devices, etc. The SWPPP that will be prepared and approved by the City of Newport Beach will ensure that all appropriate BMPs are implemented to ensure that potential construction-related water quality impacts are reduced to the maximum extent practicable.
4.3.2-2	Require that development not result in the degradation of coastal waters (including the ocean, estuaries and lakes) caused by changes to the hydrologic landscape.	Because the site has been altered and developed with existing tennis facilities, project implementation will not result in significant changes to the existing runoff conditions; however, because both construction and postconstruction BMPs will be incorporated into the Project design, it is anticipated that some improvement in the quality of the storm and related surface runoff emanating from the site will occur when compared to the existing runoff quality. The applicant will be required to prepare a WQMP and SWPPP to ensure that surface discharges do not degrade the receiving waters. These plans must be approved by the City of Newport Beach.
4.3.2-8	To the maximum extent practicable, runoff should be retained on private property to prevent the transport of bacteria, pesticides, fertilizers, pet waste, oil, engine coolant, gasoline, hydrocarbons, brake dust, tire residue, and other pollutants into recreational waters.	Consistent with this policy, the Proposed Project will be required to incorporate BMPs that address on-site retention and treatment of surface runoff. The WQMP and SWPPP will include measures to prevent the discharge of pollutants into the storm drain system. Potential post-construction BMPs that may be implemented include grassy swales, detention basins, infiltration basins, infiltration trenches. Porous pavement, hydrodynamic separator systems, etc. The BMPs will ensure that runoff will be treated to prevent the continued degradation of Newport Bay. Project implementation will result in an improvement to surface water quality because no or only limited treatment occurs at the present time.
4.3.2-11	Require new development to minimize the creation of and increases in impervious surfaces, especially directly connected	Project implementation will result in an increase of 4.94 cfs when compared to the existing runoff volume. This increase in runoff equates to a 1.1 percent increase in the existing 462 cfs that currently flows in this the

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	impervious areas, to be maximum extent practicable. Require redevelopment to increase area of pervious surfaces, where feasible.	existing 69- inch RCP that transports the flows to Newport Bay where it is discharged. As indicated above, the implementation of BMPs will require detention and treatment prior to discharge into Newport Harbor.
4.3.2-12	Require development to protect the absorption, purification, and retention functions of natural drainage systems that exist on the site, to the maximum extent practicable. Where feasible, design drainage and project plans to complement and utilize existing drainage patterns and systems, conveying drainage from the developed area of the site in a non-erosive manner. Disturbed or degraded natural drainage systems should be restored, where feasible.	Only minor changes will occur to the existing drainage systems that accommodate runoff from the site. Surface flows will generally be directed in the same fashion and into the same existing drainage facilities that currently accept storm runoff generated on the site.
4.3.2-13	Site development on the most suitable portion of the site and design to ensure the protection and preservation of natural and sensitive site resources.	The site is generally devoid of natural and/or sensitive resources because it has been substantially altered by prior development of tennis facilities. It is anticipated that the proposed development will occur in the same general area of the site that is currently developed. No important natural and/or sensitive site resources would be adversely affected by the Proposed Project. The minor increase in surface runoff attributed to site development would be treated prior to its ultimate discharge into Newport Bay to avoid potential impacts to the water quality in the Bay.
4.3.2-16	Require structural BMPs to be inspected, cleaned, and repaired as necessary to ensure proper functioning for the life of the development. Condition coastal development permits to require ongoing application and maintenance as is necessary for effective operation of all BMPs (including site design, source control, and treatment control).	The SWPPP and WQMP that will be prepared for the Proposed Project will include a maintenance plan and program to ensure that the structural BMPs function effectively and efficiently and that surface runoff meets discharge requirements.
4.3.2-18	Condition coastal development permits to require the City, property owners, or homeowners associations, as applicable, to sweep permitted parking lots and public and private streets frequently to	The Applicant would be required to comply with the street sweeping requirement and would be incorporated into regular maintenance activities.

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	remove debris and contaminated residue.	
4.3.2-19	Require parking lots and vehicle traffic areas to incorporate BMPs designed to prevent or minimize runoff of oils and grease, car battery acid, coolant, gasoline, sediments, trash, and other pollutants to receiving waters.	The WQMP would provide guidelines for the BMPs that would need to be implemented in the new and modified parking areas.
4.3.2-23	Require new development applications to include a Water Quality Management Plan (WQMP). The WQMP's purpose is to minimize to the maximum extent practicable dry weather runoff, runoff from small storms (less the %" of rain falling over a 24-hour period) and the concentration of pollutants in such runoff during construction and postconstruction from the property.	An NPDES Technical Study has been prepared and is the precursor to the WQMP, which will identify both structural and non-structure BMPs to treat surface runoff generated on the site.
4.3.2-24	To further reduce runoff, direct and encourage water conservation via the use of weather- and moisture-based irrigation controls, tiered water consumption rates, and native or drought-tolerant plantings in residential, commercial, and municipal properties to the maximum extent practicable	The Proposed Project is required to comply with the Water Efficient Landscape Ordinance and Landscape and Irrigation Design Standards in compliance with AB 1881 for new development. Water conservation measures will be required to be incorporated into the Proposed Project as prescribed in Chapter 14.16 (Water Conservation and Supply Level Regulations) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. Finally, the BMPs are intended to meet the requirements prescribed in Chapter 14.36.
Scenic and Visual Resources		
4.4.1-1	Protect and, where feasible, enhance the scenic and visual qualities of the coastal zone, including public views to and along the ocean, bay, and harbor and to coastal bluffs and other scenic coastal areas.	The Project is not located along the ocean, bay or harbor and is devoid of coastal bluffs and other features identified by the City as important visual amenities.
4.4.1-2	Design and site new development, including landscaping, so as to minimize impacts to public coastal views.	A Landscape Concept Plan has been prepared that incorporates a hierarchy of landscape materials, including mature trees, shrubs, and ground cover in a thematic approach to ensure that the aesthetic integrity of the site is maintained, and the character complements the coastal character of the coastal zone within which the site is located.

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4.4.1-6	Protect public coastal views from the following roadway segments: Newport Center Drive.	The segment of Newport Center Drive north of Farallon is designated as a Coastal View Road. However, views from vantages along Newport Center Drive will not be significantly altered as a result of Project implementation. The development would not be visible from this Coastal View Road because of the landscaping that exists along the roadway, which blocks and/or filters views to the subject property.
4.4.2-2	Continue to regulate the visual and physical mass of structures consistent with the unique character and visual scale of Newport Beach.	The proposed development includes the tennis club, hotel development and residential units. The proposed PC-47 District regulations prescribe the architectural character of the proposed structures as well as development standards related to building height, setbacks, landscaping, etc., to ensure that the mixed uses are compatible with the surrounding development. As indicated in the PC-47 regulations, the development standards are intended to "...ensure the harmony and continuity of design parameters that are respectful to the properties of its California coastal heritage." The development and design standards address building mass, scale, materials, landscape treatment, and community design.
Paleontological and Cultural Resources		
4.5.1-1	Require new development to protect and preserve paleontological and archaeological resources from destruction, and avoid and minimize impacts to such resources. If avoidance of the resources is not feasible, require an in situ or site-capping preservation plan or a recovery plan for mitigating the effect of the development.	The Proposed Project includes the redevelopment of an existing tennis club, which have resulted in significant alteration of the existing site. Although it is not expected that significant cultural resources would be encountered on the site during grading and construction, a cultural resources monitor will be available during grading to ensure that should such resources be encountered, appropriate measures will be implemented to protect artifacts and related materials.
4.5.1-2	Require a qualified paleontologist/archaeologist to monitor all grading and/or excavation where there is a potential to affect cultural or paleontological resources. If grading operations or excavations uncover paleontological/archaeological resources, require the paleontologist/archaeologist monitor to suspend all development activity to avoid destruction of resources until a determination can be made as to the significance of the paleontological/archaeological resources. If resources are	In the event human remains, cultural resources and/or fossils are encountered, ground-disturbing excavations in the vicinity of the discovery shall be redirected or halted until a qualified archaeological/paleontological monitor inspects the site to assess the significance of the find. A Native American representative shall be contacted if there is a likelihood that human remains could be of Native American origin.

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	determined to be significant, require submittal of a mitigation plan. Mitigation measures considered may range from in-situ preservation to recover and/or relocation. Mitigation plans shall include a good faith effort to avoid impacts to cultural resources through methods such as, but not limited to, project redesign, in situ preservation/capping, and placing cultural resources areas in open space.	
4.5.1-3	Notify cultural organizations, including Native American organizations, of proposed developments that have the potential to adversely impact cultural resources. Allow qualified representatives of such groups to monitor grading and/or excavation of development sites.	The City has notified representatives of the appropriate Native American organizations as mandated by SB18. Because the site has been altered by grading and development that has occurred in the past, it is unlikely that potential impacts to cultural resources would occur; however, monitoring during grading will be required. In the event important cultural resources are encountered, Native American representatives will be notified.
4.5.1-4	Where in situ preservation and avoidance are not feasible, require new development to donate scientifically valuable paleontological or archaeological materials to a responsible public or private institution with a suitable repository, located within Orange County, whenever possible.	Consistent with this policy, any discovery of artifacts and/or resources, along with supporting documentation and an itemized catalogue, will be accessioned into the collections of a suitable repository.
4.5.1-5	Where there is potential to affect cultural or paleontological resources, require the submittal of an archaeological/cultural resources monitoring plan that identifies monitoring methods and describes the procedures for selecting archaeological and Native American monitors and procedures that will be followed if additional or unexpected archaeological/cultural resources are encountered during development of the site. Procedures may include, but are not limited to, provisions for cessation of all grading and construction activities in the area of the discovery that has any potential to uncover or otherwise disturb cultural deposits in the area of the	It is not anticipated that cultural resources would be encountered based on the level of disturbance that has taken place on the site. However, should such resources be encountered during grading and construction, the archaeological/paleontological monitor will have the authority to halt or redirect grading operations to avoid impacts and allow proper evaluations and disposition of the resources.

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	discovery and all construction that may foreclose mitigation options to allow for significance testing, additional investigation and mitigation.	
	Environmental Review	
4.6-9	Require applications for new development, where applicable, to include a geologic/geotechnical study that identifies and geologic hazards affecting the project site, any necessary mitigation measures and contains statements that the Project site is suitable for the proposed development and that the development will be safe from geologic hazard for its economic life. For development on the coastal bluffs, including bluffs facing Upper Newport Bay, such reports shall include slope stability analyses and estimates of the long-term average bluff retreat rate over the expected life of the development. Reports are to be signed by an appropriately licensed professional and subject to review and approval by qualified city stall member(s) and/or contracted employee(s).	A geological assessment has been prepared (refer to Section 5.7 of this analysis, which describes the potential geotechnical constraints [e.g., settlement, ground shaking etc.] that affect site development). Several recommendations have been identified to ensure that the proposed structures and project components are adequately protected from potential soils, geologic and seismic conditions.

General Plan Amendment and Charter Section 423

The applicant is proposing to amend the Approved Project by increasing the number of hotel rooms by 14 for a total of 41 rooms. Additionally, although the applicant is reducing the number of tennis courts by three for a total of 4 courts, there is a proposed addition of 14 pickleball courts. These proposed changes exceed what is allowed by the Approved Project. Therefore, the Proposed Project requires the approval of a general plan amendment and is subject to conditions prescribed in the Charter Section 423, which was adopted by the City of Newport Beach in 2000.

Charter Section 423 requires voter approval of any major General Plan amendment to the General Plan. A major General Plan amendment is one that significantly increases allowed density or intensity by 40,000 square feet of non-residential floor area or increases traffic by more than 100 peak hour vehicle trips (AM/PM) or increases residential dwelling units by 100 units. These thresholds apply to the total of increases resulting from the amendment itself, plus 80 percent of the increases resulting from other amendments affecting the same neighborhood (defined as a Statistical Area as shown in the General Plan Land Use Element) and adopted within the preceding ten years.

City Council Policy A-18 (Guidelines for Implementing Charter Section 423) requires that proposed amendments to the General Plan be reviewed to determine if a vote of the Newport Beach electorate would be required. This policy includes a provision that all General Plan amendments be tracked as "Prior Amendments" for ten years to determine if minor amendments in a single Statistical Area cumulatively exceed the thresholds stated above.

Charter Section 423 Table below documented the Proposed Project and prior amendments within the same statistical area. Voter approval is not required for both scenarios: 1) the Proposed Project and 2) Proposed Project + 80% of prior general plan amendments. As indicated in the table below, Proposed Project implementation would not necessitate voter approval of the Proposed Project because it does not exceed the minimum threshold of 100 peak hour trips established by Charter Section 423 for voter approval.

Charter Section 423 Calculations					
	Unit	**Floor area**	**Trip rates**	**AM trips**	**PM Trips**
Tennis Clubhouse			N/A	N/A	N/A
Pickleball Courts	11 courts	N/A	1.67/Court AM 3.88/Court PM	18.37	42.68
Hotel	14 rooms	14,000[1]	0.56 AM/room 0.61 PM/room	7.84	8.54
Total - Project	N/A	14,000	N/A	26.21	51.22
Vote Required Project	N/A	No	N/A	No	No
80% of Prior Amendments	N/A	0	N/A	23	43
Total- Project + Prior Amendments	N/A	14,000	N/A	49.21	94.22
Vote Required Project + Prior Amendments	N/A	No	N/A	No	No

[1] Pursuant to Council Policy A-18, each hotel room equals 1,000 square feet, so there is a 14,000 square foot increase.

The Project as proposed would result in minor changes to the Approved Project, which includes an amendment to the General Plan to account for the additional hotel rooms and addition of 14 pickleball courts. With the General Plan Amendment, the Proposed Project's additional hotel rooms and pickleball courts would be consistent with the General Plan and zoning of the subject property. In addition, the Proposed Project is entirely within the footprint of the Approved Project. No component of the Proposed Project, once operational, would have the potential to conflict with adjacent land

uses. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in additional hotel rooms at the Tennis Club site, impacts to land use and planning would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.12 MINERAL RESOURCES

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

5.12.1 Impact Analysis

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?

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any impacts to available mineral resources. The Approved Project site is currently developed with tennis facilities. Neither the Newport Beach General Plan (Land Use Element and/or Recreation and Open Space Element) nor the State of California has identified the Project site as a potential mineral resource of Statewide or regional significance (City 2010). No mineral resources are known to exist and, therefore, Project implementation will not result in any significant impacts.

Proposed Project Analysis and Significance Determination: No Impact. As discussed in the 2010 MND, the Project site is currently developed with tennis facilities. Neither the Newport Beach General Plan (Land Use Element and/or Recreation and Open Space Element) nor the State of California has identified the Project site as a potential mineral resource of Statewide or regional significance (City 2010). Additionally, the Project site is located in Mineral Resource Zone 3, an area containing mineral deposits of which significance cannot be evaluated from available data (DOC 1983). No mineral

resources are known to exist and, therefore, Project implementation will not result in any significant impacts. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any impacts to mineral resource recovery sites. As indicated above, the Newport Beach General Plan does not identify the Project site as having potential value as a locally important mineral resource site. Project implementation as proposed will not result in the loss of any locally important mineral resource site and, therefore, no significant impacts will occur.

Proposed Project Analysis and Significance Determination: No Impact. As indicated above, the Newport Beach General Plan does not identify the Project site as having potential value as a locally important mineral resource site. Project implementation as proposed will not result in the loss of any locally important mineral resource site and, therefore, no significant impacts will occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to mineral resources would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.13 NOISE

13.	NOISE Would the project result in:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
(b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

(c)	For a project located within the vicinity of a private airstrip or 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?	☐	☐	☒	☐

5.13.1 Environmental Setting

The Proposed Project site is located within the City of Newport Beach. Currently, the primary sources of noise within the study area consists of noise emanating from the pickle ball courts within the tennis club and vehicle noise from the parking lots on the south side of the Project site and from Coast Highway and Newport Center Drive. In order to determine the existing noise levels, three long-term (within the 24-hour period) ambient noise measurements were taken in the vicinity of the Proposed Project between 11:05 a.m. on Tuesday July 12, 2022 and 11:28 a.m. on Wednesday, July 13, 2022. The results of the noise level measurements are presented in Table 5-14 and the noise measurement printouts and photos of the noise measurements sites are provided in Appendix D.

Table 5-14 – Existing Noise Level Measurements

Site No.	Site Description	Average (dBA Leq)		1-hr Average (dBA L_{eq}/Time)		Average (CNEL)
		Daytime[1]	Nighttime[2]	Minimum	Maximum	
1	Southwest Side of Project Site	58.0	47.6	38.4 (3:25 AM)	61.8 (2:41 PM)	58.5
2	Southeast Side of Project Site	56.3	44.9	37.9 (3:24 AM)	59.9 (7:30 AM)	56.6
3	North Side of Project Site	58.5	45.8	34.7 (3:50 AM)	62.3 (4:42 PM)	58.1

Notes:
[1] Daytime defined as 7:00 a.m. to 10:00 p.m. (Section 10.26.025 of the Municipal Code)
[2] Nighttime defined as 10:00 p.m. to 7:00 a.m. (Section 10.26.025 of the Municipal Code)
CNEL = Community Noise Equivalence Levels
Source: Larson-Davis Model LXT1 Type 1 sound level meters programmed in "slow" mode to record noise levels in "A" weighted form.

City of Newport Beach Noise Standards

For construction activities within the City of Newport Beach, Municipal Code Section 10.28.040(A) exempts construction noise from the City's noise standards, provided that construction activities are conducted between 7:00 a.m. and 6:30 p.m. Monday through Friday or between 8:00 a.m. and 6:00 p.m. on Saturdays.

Operational activities are subject to the City's exterior noise standards detailed in Section 10.26.025 of the Municipal Code and Table N3 of Noise Element that limits noise to 60 dBA between 7:00 a.m. and 10:00 p.m. and 50 dBA between 10:00 p.m. and 7:00 a.m. at the exterior of the nearby residential portions of mixed-use properties.

5.13.2 Impact Analysis

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

2010 MND Determination: Less than Significant with Mitigation Incorporated. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts to ambient noise levels with proper mitigation incorporated. Noise measurements were taken in order to document existing baseline levels in the area. On-site noise levels in the vicinity of the future on-site residential uses are in the 55-60 dB range, within Newport Beach residential noise standards. The residential homes and hotel buildings will be exposed to traffic along surrounding roadways. The residential component lies approximately 2,900 feet from the Jamboree Road centerline and 2,700 feet from the MacArthur Boulevard centerline. There are numerous intervening buildings separating the site from these roadways. Given the setback distance and noise attenuation provided by existing building structures, noise from these roadways was not considered to provide a significant impact upon the Approved Project residential uses. East Coast Highway is approximately 450 feet from the closest proposed onsite residential use and as such provides the largest potential traffic noise impact. Although other roadways will add to the Project noise exposure level, they will not dominate the noise environment.

Noise meters placed in the approximate location of the proposed on-site residential units demonstrated existing Community Noise Equivalence Levels (CNELs) of 55 dB CNEL in the center of the proposed residential area and 60 dB CNEL at the approximate location of the closest residential unit. Existing office and tennis clubhouse buildings assist in shielding the proposed residential area from traffic noise emanating from East Coast Highway.

Temporary construction noise impacts will vary markedly because the noise strength of construction equipment ranges widely as a function of the equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated initially by demolition of existing structures and large earth-moving sources, then by foundation and parking lot construction, and finally for finish construction. The demolition and earthmoving sources are the noisiest, with equipment noise typically ranging from 75 to 90 dBA at 50 feet from the source. Use of a rock crusher, if onsite rock recycling is chosen, has the potential to exceed City noise regulations without incorporation of mitigation measure MM-3. Additionally, mitigation measures 4 through 7 would be incorporated to reduce impacts to a level less than significant.

MM-3	During rock crushing operations, a sound blanket shall be used if a direct line of sight exists between the crusher any off-site homes.
MM-4	All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.
MM-5	Prior to issuance of a grading permit, a construction schedule shall be developed that minimizes potential project-related and cumulative construction noise levels.
MM-6	The construction contractor shall notify the residents of the construction schedule for the Project and shall keep them informed on any changes to the

schedule. The notification shall also identify the name and phone number of a contact person in case of complaints. The contact person shall take all reasonable steps to resolve the complaint.

MM-7 Heating, venting, and air conditioning (HVAC) equipment in or adjacent to residential areas shall be shown by computation, based on the sound rating of the proposed equipment, not to exceed an A-weighted sound pressure level of fifty (50) dBA or not to exceed an A-weighted sound pressure level of fifty-five (55) dBA.

Project-related traffic will not contribute significantly to the ambient noise levels in the area. In addition, the continuation of the tennis club would similarly not contribute significantly to the ambient noise levels and, therefore, would not adversely affect the nearby residential development because the number of tennis courts has been reduced and the noise levels would be expected to be the same or less than that currently associated with activities at the tennis club facility.

The section of East Coast Highway closest to the Project site (between Jamboree Road and Newport Center Drive) had a traffic count of 35,660 vehicles per day equating to a noise level of 73.5 dB CNEL at 50 feet from the centerline. At 450 feet from the centerline, at the approximate location of the closest proposed on-site residence, this noise level decays to 59 dB CNEL due to distance spreading losses utilizing soft-site conditions. Several intervening buildings afford a partial shielding accounting for approximately -3 dB CNEL. The predicted on-site CNEL is approximately 56 dB. The measured CNEL levels were 55 and 59 dB. Noise emanating from vehicles entering and exiting the Project site improvements will be less than from existing site operations and will be spread over several areas. Parking lot noise is not anticipated to be a noise nuisance.

The Approved Project will also comply with the noise ordinance relating to permissible hours of construction operations and will not start construction operations until 8:00am. According to the City of Newport Beach Municipal Code, permissible hours of construction are 7:00 a.m. and 6:30 p.m. on weekdays and 8:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted on any national holiday or on any Sunday. This exclusion from numerical standards ordinance compliance is presumed applicable to any mobile construction equipment, but not to a possible rock crusher. These hours are included as conditions on any project construction permits and these limits will serve to minimize any adverse construction noise impact potential.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Both construction and operation of the Proposed Project would have the potential to generate noise in excess of standards and have been analyzed separately below

Construction-Related Noise

Construction activities for the Proposed Project were modeled based on the construction phases and equipment that are detailed in Section 2.3.2 of the Project Description. The nearest sensitive receptors to the Project site are homes located as near 50 feet to the north of the proposed improvements on the Project site. There are also commercial uses as near as 75 feet to the east of the proposed improvements on the Project site.

Municipal Code Section 10.28.040(A) exempts construction noise from the City's noise standards, provided that construction activities are conducted between 7:00 a.m. and 6:30 p.m. Monday through Friday or between 8:00 a.m. and 6:00 p.m. on Saturdays. However, the City construction noise standards do not provide any limits to the noise levels that may be created from construction activities and even with adherence to the City standards, the resultant construction noise levels may result in a significant substantial temporary noise increase to the nearby residents. In order to determine if the proposed construction activities would create a significant substantial temporary noise increase, the Federal Transit Administration (FTA) construction noise criteria thresholds[2] have been utilized, which show that a significant construction noise impact would occur if construction noise exceeds 80 dBA at the nearby homes or 85 dBA at the nearby commercial uses.

The Federal Highway Administration (FHWA) compiled noise level data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston. Table 5-15 below provides a list of the construction equipment measured, along with the associated measured noise emissions and measured percentage of typical equipment use per day. From this acquired data, FHWA developed the Roadway Construction Noise Model (RCNM). The RCNM, which uses the Spec 721.560 L_{max} at 50 feet, has been used to calculate the construction equipment noise emissions (see Appendix D).

Table 5-15 – Construction Equipment Emissions and Usage Factors

Equipment	Acoustical Use Factor[1] (Percent)	Spec 721.560 L_{max} @ 50 Feet[2] (dBA, slow[3])	Actual Measured L_{max} @ 50 feet[4] (dBA, slow)
Auger Drill Rig	20	85	N/A
Backhoe	40	80	78
Compressor (air)	40	80	78
Concrete Mixer Truck	40	85	79
Concrete Pump	20	82	81
Concrete Saw	20	90	90
Crane	16	85	81
Dozer	40	85	82
Dump Truck	40	84	76
Excavator	40	85	81
Flatbed Truck	40	84	74
Front End Loader	40	80	79
Generator	50	82	81
Gradall (Forklift)	40	85	83
Mounted Impact Hammer	20	90	90
Paver	50	85	77
Roller	20	85	80

[2] Source: Transit Noise and Vibration Impact Assessment Manual, prepared by Federal Transit Administration, September 2018.

Tractor	40	84	N/A
Welder/Torch	40	73	74

[1] Acoustical use factor is the percentage of time each piece of equipment is operational during a typical workday.

[2] Spec 721.560 is the equipment noise level utilized by the Roadway Construction Noise Model program.

[3] The "slow" response averages sound levels over 1-second increments. A "fast" response averages sound levels over 0.125-second increments.

[4] Actual Measured is the average noise level measured of each piece of equipment during the Central Artery/Tunnel project in Boston, Massachusetts primarily during the 1990s.

Source: Federal Highway Administration, 2006.

The anticipated areas of construction and construction equipment that will be utilized during development of each area were obtained from the Project applicant. For each phase of construction, all construction equipment was analyzed based on being placed in the middle of the Project site, which is based on the analysis methodology detailed in FTA Manual for a General Assessment. However, in order to provide a conservative analysis, all equipment was analyzed, instead of just the two nosiest pieces of equipment as detailed in the FTA Manual. The results are shown below in Table 5-16.

Table 5-16 – Proposed Project Construction Noise Levels at Nearby Sensitive Receptors

Construction Phase	Construction Noise Level at: (dBA L_{eq})	
	Homes to North	Commercial to East
Phase 1 - Temporary Structures	65	64
Phase 2 – Demolition	69	68
Phase 3 - Grading	70	69
Phases 4 & 5 – Combined Building Construction, Paving, and Painting	71	70
Construction Noise Threshold[1]	**80**	**85**
Exceed Threshold?	No	No

Notes:

[1] Construction Noise Thresholds from Federal Transit Administration, 2018.

Source: RCNM Version 1.1 (see Appendix D).

Table 5-16 shows that the greatest construction noise impacts would occur during Phases 4 and 5 activities that would include combined building construction, paving and painting activities with a noise level as high as 71 dBA L_{eq} at the homes located north of the Project site and 70 dBA Leq at the nearest commercial uses to the east of the Project site. Table 5-16 also shows that construction noise impacts from the Proposed Project would be below the 80 dBA residential noise standard and below the 85 dBA commercial noise standards for all phases of construction. As such, construction-related onsite noise impacts to the nearby sensitive receptors would be less than significant for the Proposed Project.

Operation-Related Noise

The operation of the Proposed Project may create an increase of onsite noise levels from the new rooftop mechanical equipment, reconfigured pickle ball courts to tennis courts, and parking lots. The Proposed Project would also generate additional vehicle trips, however according to the Traffic Memorandum (LSA 2022) the Proposed Project would generate an additional 51 daily trips, which is a negligible amount when compared to the 45,850 daily trips currently on Coast Highway[3]. In order for roadway noise to increase by 3 dBA the vehicle traffic would have to double. As such, a less than significant roadway noise impact would occur from the Proposed Project and the operational noise analysis is limited to the onsite noise sources.

Section 10.26.025 of the Municipal Code and Table N3 of Noise Element limits exterior noise impacts to the nearby residential portions of mixed-use properties to 60 dBA between 7:00 a.m. and 10:00 p.m. and 50 dBA between 10:00 p.m. and 7:00 a.m. For the rooftop mechanical equipment, parking lots, tennis courts and pickleball courts, reference noise measurements were taken of each source and the noise measurement printouts are shown in Appendix D. The reference noise measurement of the pickleball courts were based on Noise Measurement Site 3 from Table 5-14 (above) that was located approximately 30 feet from the existing and active pickle ball courts on the Project site. The proposed site plan shows that the nearest pickleball courts to the homes to the north will be converted back to tennis courts as part of the Project, which will result in the nearest pickle ball courts being located as near as 290 feet away from the nearest homes to the north (compared to 48 feet away for existing condition). Table 5-17 shows the calculated noise levels of the nearest HVAC unit to the existing homes, based on a standard attenuation rate of 6 dB per doubling of distance.

Table 5-17 – Operational On-Site Noise Impacts to the Nearest Homes

Noise Source	Reference Noise Measurement		Project Impacts at Nearest Homes to the North	
	Distance of Receptor to Source (feet)	Noise Level (dBA L_{eq})	Distance of Receptor to Source (feet)	Noise Level[1] (dBA L_{eq})
New Parking Lots	5	63.1	150	34
Tennis Courts	5	50.7	35	34
Pickleball Courts	30	58.5	290	39
Rooftop Mechanical Equipment	6	65.1	80	43
City Noise Standard (day/night)[2]				60/50
Exceed City Standards (day/night)?				No/No

Notes:

[1] Project noise impacts calculated based on typical noise propagation rates of 6 dB per doubling of distance.

[2] City Noise Standard from Section 10.26.025 of the Municipal Code.

[3] Obtained from: https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017/route-1

The data provided in Table 5-17 shows that anticipated worst-case noise levels created from the proposed rooftop mechanical equipment, parking lots, tennis courts, and pickleball courts would all be within the City's exterior daytime and nighttime residential noise standards at the nearest homes to the north. As such, operations-related onsite noise impacts to the nearby homes would be less than significant for the Proposed Project.

Accordingly, the Proposed Project would not expose persons to noise levels in excess of standards established by the City of Newport Beach.

b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts related to groundborne vibration or noise. Construction activities generate groundborne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Within the "soft" sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance. Groundborne vibration attenuates quickly with distance. Vibration levels from the use of heavy equipment would be typical of that used for other projects; no blasting or other extraordinary grading techniques would be necessary to implementation the Approved Project. Therefore, potential ground borne vibration would be expected to be imperceptible at the nearest off-site homes. Construction activity vibration impacts are judged as less than significant.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Construction activities would require the operation of off-road equipment and trucks that are known sources of vibration. Construction activities may occur as near as 50 feet to the multi-family homes located on the north side of the Project site.

Since neither the City's General Plan nor the Municipal Code provide any thresholds related to vibration, Caltrans guidance[4] has been utilized, which defines the threshold of perception from transient sources at 0.25 inch-per-second peak particle velocity (PPV). Table 5-18 shows the typical PPV produced from some common construction equipment.

[4] From *Transportation and Construction Vibration Guidance Manual,* prepared by Caltrans, September 2013.

Table 5-18 – Typical Construction Equipment Vibration Emissions

Equipment	Peak Particle Velocity in inches per second at 25 feet	Vibration Level (L_v) at 25 feet
Pile Driver (impact)	0.644	104
Pile Driver (sonic)	0.170	93
Clam Shovel Drop	0.202	94
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drill	0.089	87
Loaded truck (off road)	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Source: Federal Transit Administration 2006.

From the list of equipment shown in Table 5-18, a vibratory roller with a vibration level of 0.21 inch-per-second PPV would be the source of the highest vibration levels of all equipment utilized during construction activities for the Proposed Project. Based on typical propagation rates this would result in a vibration level of 0.098 inch-per-second PPV at the nearest homes (50 feet to the north) to construction activities. The construction-related vibration levels would be within the 0.25 inch-per-second PPV threshold detailed above. Construction-related vibration impacts would be less than significant.

The on-going operation of the Proposed Project would not result in the creation of any known vibration sources. Therefore, a less than significant vibration impact is anticipated from the operation of the Proposed Project.

Accordingly, the Proposed Project would not expose persons to excessive groundborne vibration or groundborne noise levels.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any impacts associated with proximity to airports. John Wayne Airport is located approximately 4.0 miles north of the subject property. No other private airstrips or other aviation facilities are located within the Project vicinity. Development of the site as proposed will not result in potential adverse impacts, including safety hazards, to people residing or working in the Project area.

Proposed Project Analysis and Significance Determination: No Impact. The Proposed Project site is not located within two miles of a public airport and is not in the vicinity of a private airstrip. The nearest airport is John Wayne Airport, which is located approximately 4.2 miles north of the Proposed

Project site. The Project site is located outside of the 65 dBA CNEL noise contours of John Wayne Airport. The Proposed Project would not expose people residing or working in the surrounding area to excessive levels of airport-generated noise. As such, no impacts regarding airport and airstrip noise would be anticipated. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to noise would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.14 POPULATION AND HOUSING

14.	POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Induce substantial unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

5.14.1 Impact Analysis

a) Would the project induce substantial unplanned 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)?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result in any significant impacts associated with population growth. The Approved Project implementation includes the development of five (5) single-family detached residential dwelling units. Based on the City's population per household average of 2.2, the Approved Project would generate a total of 11 residents (City 2021a). The residential development proposed with this Project in Anomaly No. 46 is permitted in accordance with the MU-H3/PR land use designation (City 2010). Consequently, development of these dwelling units would

not result in either direct or indirect unanticipated growth in the City. Therefore, no significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. While similar to the 2010 MND, Project implementation includes the same number of residential units as the Approved Project. The only change would be that three of the five units would be condominiums rather than single family homes. Consequently, development of these dwelling units would not result in either direct or indirect unanticipated growth in the City. Therefore, no significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

b) *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any impacts associated with displacement of housing or persons. The Project site is developed with the tennis club (formerly known as Balboa Bay Tennis Club); both are private recreational facilities (City 2010). No residential development exists within the limits of the subject property. Project implementation, therefore, will not result in the displacement of any existing residential dwelling units that would necessitate replacement elsewhere in the City. No significant impacts will occur, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: No Impact. As previously indicated in the 2010 MND, the Project site is developed with the tennis club; both are private recreational facilities (City 2010). No residential development exists within the limits of the subject property. Project implementation, therefore, will not result in the displacement of any existing residential dwelling units that would necessitate replacement elsewhere in the City. No significant impacts will occur, and no mitigation measures are required. No new impacts would result from the Proposed Project and no revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to population and housing would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.15 PUBLIC SERVICES

15.	PUBLIC SERVICES.	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i) Fire Protection?	☐	☐	☒	☐
	ii) Police Protection?	☐	☐	☒	☐
	iii) Schools?	☐	☐	☒	☐
	iv) Parks?	☐	☐	☒	☐
	v) Other public facilities?	☐	☐	☐	☒

5.15.1 Impact Analysis

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with fire protection. Fire protection facilities and service to the subject property are provided by the Newport Beach Fire Department (NBFD). In addition to the City's resources, the NBFD also maintains a formal automatic aid agreement with the Orange County Fire Authority and all neighboring municipal fire departments to facilitate fire protection in the City should the need arise (City 2010). Fire Station No. 3-Fashion Island is the closest responding fire station to the subject property, approximately 0.77 miles north of the Project site (City 2010). The Approved Project would comply with the current California Building Code adopted by the City. A code compliance analysis will be conducted by City staff to ensure that adequate water pressure and related features required by the City are provided to ensure that the Project complies with the California Fire Code and related City codes. Adequate water supplies and infrastructure, including fire hydrants, exist in the vicinity of the Project, and there is no requirement for other new facilities or emergency services. Therefore, a less than significant impact would occur, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, fire protection facilities and service to the subject property are provided by the NBFD (City 2010). Fire Station No. 3-Fashion Island is the closest responding fire station to the subject property, approximately 0.77 miles north of the Project site (Google 2022). The Project would comply with the current California Building Code adopted by the City. The developer of the new residences would be required to pay development fees which would offset the needs for additional fire

department related services. Additionally, the 11 new residents, and 14 additional hotel rooms associated with the Proposed Project would not create a significant impact on the Newport Beach Fire Department. Adequate water supplies and infrastructure are designed to support the Proposed Project, including new fire hydrants. Therefore, a less than significant impact would occur, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with police protection. The Newport Beach Police Department (NBPD) is responsible for providing police and law enforcement services within the corporate limits of the City (City 2010). The Police Department headquarters is located at 870 Santa Barbara Drive, at the intersection of Jamboree Road and Santa Barbara, approximately two miles northeast of the subject property (City 2010). The NBPD currently has a ratio of 1.91 sworn officers for each 1,000 residents in the City. This ratio is adequate for the current population. Police and law enforcement service in the City is provided by patrols with designated "beats." Development of the subject site as proposed would not require an expansion to local law enforcement resources and therefore would not result in any environmental impacts involving construction of new law enforcement facilities. No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The NBPD is responsible for providing police and law enforcement services within the corporate limits of the City (City 2010). The Police Department headquarters is located at 870 Santa Barbara Drive, at the intersection of Jamboree Road and Santa Barbara, approximately two miles northeast of the subject property (Google 2022). The Applicant would be required to pay development fees which would offset the needs for additional police department related services. The overall number of residential units remain the same, while 14 new hotel rooms would be added. As a result, 11 new residents and visitors associated with the Proposed Project would not create a significant impact on the Newport Beach Police Department, beyond what was as previously analyzed. Police and law enforcement service in the City is provided by patrols with designated "beats." Development of the subject site as proposed would not require an expansion to local law enforcement resources and therefore would not result in any environmental impacts involving construction of new law enforcement facilities. No significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with

school facilities. The provision of educational facilities and services in the City of Newport Beach is the responsibility of the Newport-Mesa Unified School District (City 2010). Residential and non-residential development is subject to the imposition of school fees. Payment of the State-mandated statutory school fees is the manner by which potential impacts to the District's educational facilities are mitigated. The five single-family residential dwelling units included in the Approved Project would not generate a significant number of new students in the District. The five dwelling units were included in the General Plan analysis. Based on the General Plan analysis of new dwelling units within the City (City 2006), it is estimated that the Approved Project would generate approximately 2 students. New or expanded school facilities would not be required to provide classroom and support space for the low number of school age children. However, as indicated above, the Applicant must pay the applicable school fee to the school district, pursuant to Section 65995 of the California Government Code, in order to offset the incremental cost impact of expanding school resources to accommodate the increased student enrollment associated with one new residence. With the payment of the mandatory school fees, no significant impacts would occur as a result of project implementation.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The provision of educational facilities and services in the City of Newport Beach is the responsibility of the Newport-Mesa Unified School District (City 2010). Residential and non-residential development is subject to the imposition of school fees. Payment of the State-mandated statutory school fees is the manner by which potential impacts to the District's educational facilities are mitigated. The overall number of residential units remains the same as previously included in the Approved Project. The proposed change to two single-family residential dwelling units and three condominiums included in the Proposed Project would not generate a significant number of new students in the District. These five dwelling units were included in the General Plan analysis. Based on the General Plan analysis of new dwelling units within the City (City 2006), it is estimated that the Proposed Project would generate approximately 2 students. New or expanded school facilities would not be required to provide classroom and support space for the low number of school age children. However, as indicated above, the Applicant must pay the applicable school fee to the school district, pursuant to Section 65995 of the California Government Code, in order to offset the incremental cost impact of expanding school resources to accommodate the increased student enrollment associated with one new residence. With the payment of the mandatory school fees, no significant impacts would occur as a result of Project implementation. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with recreation or governmental facilities. The Approved Project would add 11 residents to the city, and would be subject to park in-lieu fees to support the existing park facilities within the Newport Center park service area in which the Approved Project is located. Therefore, a less than significant impact would occur.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, the Proposed Project would add 11 residents to the City. The new residents and visitors would not create a new need for governmental and park facilities and would be subject to park in-lieu fees. A discussion of impacts to recreational facilities are provided in Section 5.16.1. Therefore, a less than significant impact would occur. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with other public facilities. No increased demand for other public services is anticipated and there would be no need to construct any new public facilities (City 2010). No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: No Impact. Similar to the 2010 MND, no increased demand for other public services is anticipated and there would be no need to construct any new public facilities (City 2010). No significant impacts are anticipated, and no mitigation measures are required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to public services would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.16 RECREATION

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

5.16.1 Impact Analysis

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?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with degradation of recreational facilities. Implementation of the Approved Project will result in the construction of five single-family homes, known as the Villas, 27 short-term hotel rooms, known as The Bungalows, and a reconstruction of tennis clubhouse. The Bungalows will be available for use by tennis club members, as well as the general public. Although residents of the proposed residential units and visitors of the hotel development would occasionally visit local and regional parks and beaches, use of those public facilities by the future residents and hotel guests would not represent a substantial change in the intensity of usage and the impact would not result in substantial physical deterioration of those park areas. The City of Newport Beach maintains 79 parks, beaches, and marine habitats within the City, and the nearest city park is the Irvine Terrace park, approximately .16 mile southeast of the Project site (City 2010). The subject site is located in Service Area 9 (Newport Center), which currently supports 19 acres of existing parkland, which exceeds the 10.9 acres of parkland "needs" based on the City's current requirements (City 2010). Nonetheless, the Applicant would be subject to the payment of park in-lieu fees for the proposed residential use, refer to 5.15.1 (b), in accordance with Title 19 of the Newport Beach Municipal Code. No significant impacts to recreational facilities are anticipated and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Implementation of the Proposed Project will result in the construction of two single-family homes and three condominiums, 41 short-term hotel rooms, and a reconstruction of tennis clubhouse. The hotel development will be available for use by tennis club members, as well as the general public. Although residents and hotel visitors would occasionally visit local and regional parks and beaches, use of those public facilities by the future residents and hotel guests would not represent a substantial change in the intensity of usage and the impact would not result in substantial physical deterioration of those park areas. The City of Newport Beach maintains 79 parks, beaches, and marine habitats within the City, and the nearest city park is the Irvine Terrace park, approximately .16 mile southeast of the

Project site (City 2010). The subject site is located in Service Area 9 (Newport Center), which currently supports 19 acres of existing parkland, which exceeds the 10.9 acres of parkland "needs" based on the City's current requirements (City 2010). Nonetheless, the Applicant would be subject to the payment of park in-lieu fees for the residential use, refer to Section 5.15.1 (b), in accordance with Title 19 of the Newport Beach Municipal Code. No significant impacts to recreational facilities are anticipated and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any impacts associated with creation or expansion of recreational facilities. Development of the site as proposed would not require the construction of new or the expansion of existing recreational facilities in the City of Newport Beach (City 2010). However, as indicated above, Title 19 (Subdivisions) of the Newport Beach Municipal Code requires the developer to pay a park in-lieu fee for the proposed residential component of the Project. This fee will be used to augment recreational facilities in the City. Therefore, no significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: No Impact. Development of the site as proposed would not require the construction of new or the expansion of existing recreational facilities in the City of Newport Beach (City 2010). However, as indicated above, Title 19 (Subdivisions) of the Newport Beach Municipal Code requires the developer to pay a park in-lieu fee for the proposed residential component of the Project. This fee will be used to augment recreational facilities in the City. Therefore, no significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to recreation would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.17 TRANSPORTATION

17.	TRANSPORTATION. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?	☐	☒	☐	☐
(b)	Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
(c)	Substantially increase hazards due to a geometric design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
(d)	Result in inadequate emergency access?	☐	☐	☒	☐

5.17.1 Environmental Setting

A Traffic and Parking Analysis Update Memo was prepared in January 2023 by LSA to update the Tennis Club site portion only that was analyzed in the 2009 Traffic and Parking Study prepared by Kimley-Horn and Associates for the Approved Project. The Traffic and Parking Analysis Update Memo (Appendix E) identifies the trip generation and parking requirements based on the updated Project description.

5.17.2 Impact Analysis

a) *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities?*

2010 MND Determination: Less Than Significant with Mitigation Incorporated. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with the existing circulation system as long as mitigation was incorporated. The short-term traffic impacts are those resulting from site preparation (i.e., grading and site preparation) and construction activities. With the exception of heavy trucks traveling to and from the site in the morning and afternoon to be used during site preparation and construction that occurs on-site, no other heavy truck traffic associated with hauling earth materials to or from the site will occur. During the construction phase, there will be periods of time when heavy truck traffic would occur that could result in some congestion on East Coast Highway. However, the number of heavy trucks entering and leaving the Project area would be limited to those transporting equipment and materials to the site. Other construction-related traffic impacts are associated with vehicles carrying workers to and from the site and medium and heavy trucks carrying construction materials to the Project site, which may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles could create a temporary/short-term impact to vehicles using neighboring streets in the morning and afternoon hours. Therefore, aside from potentially minor impacts resulting from the increase in traffic that will occur as a result of construction-related traffic (e.g., construction materials, construction workers, etc.), no significant short-term impacts are anticipated to occur as a result of project implementation. Nonetheless, the construction traffic impacts would be adequately

addressed through the implementation of a Construction Staging, Parking and Traffic Control Plan for each phase of construction.

Approved Project implementation would result in a net increase in vehicular trips. As indicated in Table 13 from the 2010 MND, the existing facility generated 929 daily trips and 32 a.m. peak hour and 80 p.m. peak hour trips currently generated by the existing facilities.

Table 13. Existing Trip Generation Rates (2010)

Land Use	Size	Unit	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates									
Tennis Courts		Court	38.70	0.66	0.66	1.32	1.68	1.68	3.36
Bungalows		Room	8.17	0.34	0.2	0.56	0.31	0.28	0.59
Singly-Family Residential		DU	9.57	0.19	0.56	0.75	0.64	0.37	1.01
Existing Development Trip Generation[1]									
Tennis Club	24	Court	929	16	16	32	40	40	80
Approved Project Trip Generation[1]									
Tennis Courts	7	Court	271	5	5	10	12	12	24
Hotels (Bungalow)	27	Room	221	9	6	15	8	8	16
Single Family Homes	5	DU	48	1	3	4	3	2	5
Total Approved Trip Generation			**540**	**15**	**14**	**29**	**23**	**22**	**45**
Net New Trips			**-389**	**-1**	**-2**	**-3**	**-17**	**-18**	**-35**

[1] Trip rates references from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 8th Edition (2009)

As indicated in Table 13, Approved Project implementation would result in the elimination of 17 tennis courts, which would be replaced by 27 hotel rooms and five single-family residential dwelling units.

As a result, traffic generated by the Approved Project would decrease by 389 daily trips; a.m. and p.m. peak hour trips would also decrease by 3 and 35 trips, respectively. Since the Approved Project would generate less daily and peak hour traffic than the existing development, a detailed traffic analysis was not conducted. No significant project-related or cumulative long-term traffic impacts would occur as a result of the Approved Project. Mitigation Measure MM-8 is proposed to reduce construction related traffic impacts, along with MM-9 being implemented to increase the length of a left turn pocket to accommodate left-turn movements.

MM-8 Prior to commencement of each major phase of construction, the Applicant shall submit a Construction Staging, Parking and Traffic Control Plan for approval by the Public Works Department, which shall address issues pertaining to potential traffic conflicts during peak traffic periods, potential displacement of on-street parking, and safety.

- This plan shall identify the proposed construction staging area(s), construction crew parking area(s), estimated number and types of

vehicles that will occur during each phase, the proposed arrival/departure routes and operational safeguards (e.g., flagmen, barricades, etc.) and hourly restrictions, if necessary, to avoid traffic conflicts during peak traffic periods and to ensure safety.

- If necessary, the Construction Staging, Parking and Traffic Control Plan shall provide for an off-site parking lot for construction crews which will be shuttled to and from the Project site at the beginning and end of each day until such time that the Project site can accommodate off-street construction vehicle parking.
- The plan shall identify all construction traffic routes, which shall avoid narrow streets unless there is no alternative, and the plan shall not include any streets where some form of construction is underway within or adjacent to the street that would impact the efficacy of the proposed route.
- Dirt hauling shall not be scheduled during weekday peak hour traffic periods.
- The approved Construction Staging, Parking and Traffic Control Plan shall be implemented throughout each major construction phase.

MM-9 The left turn pocket on Irvine Terrace at the Coast Highway shall be increased in length to a minimum of 100 feet plus transition in order to adequately accommodate left-turn movements.

Proposed Project Analysis and Significance Determination: Less Than Significant with Mitigation Incorporated. While reduced in overall project size compared to the 2010 MND, the short-term traffic impacts are those resulting from site preparation (i.e., grading and site preparation) and construction activities. With the exception of heavy trucks traveling to and from the site in the morning and afternoon to be used during site preparation and construction that occurs on-site, no other heavy truck traffic associated with hauling earth materials to or from the site will occur. During the construction phase, there will be periods of time when heavy truck traffic would occur that could result in some congestion on East Coast Highway. However, the number of heavy trucks entering and leaving the Project area would be limited to those transporting equipment and materials to the site. Other construction-related traffic impacts are associated with vehicles carrying workers to and from the site and medium and heavy trucks carrying construction materials to the Project site, which may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles could create a temporary/short-term impact to vehicles using neighboring streets in the morning and afternoon hours. Therefore, aside from potentially minor impacts resulting from the additional increase in traffic that will occur as a result of increased construction-related traffic due to the additional 14 hotel rooms (e.g., construction materials, construction workers, etc.), no significant short-term impacts are anticipated to occur as a result of implementation of MM-TRA-1. Nonetheless, the construction traffic impacts would be adequately addressed through the implementation of a Construction Staging, Parking and Traffic Control Plan for each phase of construction associated with MM-TRA-1.

Proposed Project implementation would result in a net increase in vehicular trips, compared to Approved Project. As indicated in Table 5-19, Proposed Project implementation would result in the elimination of some of the existing tennis and interim-use pickleball courts, which would be replaced

by 41 hotel rooms and two single-family residential dwelling units and three residential condominium units.

Table 5-19 – Proposed Project Trip Generation Summary Compared to Approved Project

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Racquet/Tennis Club[2]		Court	27.71	0.66	0.66	1.32	1.91	1.91	3.82
Hotel		Room	7.99	0.26	0.20	0.46	0.30	0.29	0.59
Single Family Attached Housing		DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
Single Family Detached Housing		DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Approved Project Trip Generation									
Tennis Court	7	Court	271	5	5	10	12	12	24
Bungalow	27	Room	221	9	6	15	8	8	16
Single Family Homes	5	DU	48	1	3	4	3	2	5
Total Approved Trip Generation			540	15	14	29	23	22	45
Proposed Project Trip Generation									
Tennis & Pickleball Court	18	Court	499	12	12	24	34	34	68
Bungalow/Bungalow Loft/Fairway Loft	41	Room	328	11	8	19	12	12	24
Condominium (attached)	3	DU	22	0	1	1	1	1	2
Condominium (detached)	2	DU	19	0	1	1	1	1	2
Total Trip Generation			**868**	**23**	**22**	**45**	**48**	**48**	**96**
Net Trip Generation (Proposed Project – Approved [2012])			**328**	**8**	**8**	**16**	**25**	**26**	**51**

[1] Trip rates references from the ITE *Trip Generation Manual*, 11th Edition (2021). Land use codes 491 – Racquet/Tennis Club, 310 – Hotel, 215 – Single-Family Attached Housing, 210 Single-Family Detached Housing
[2] The ITE *Trip Generation Manual* 11th Edition does not provide a.m. peak hour trip rates and the p.m. peak hour direction distribution. The a.m. peak hour trip rates and the p.m. peak hour direction distribution are referenced from the 2009 Traffic Study prepared by Kimley-Horn and Associates.
ADT = average daily trips, DU = dwelling unit

As shown in Table 5-19, with the reduction of three tennis courts, addition of 14 pickleball courts, and addition of 14 hotel rooms, the Project would generate 328 additional daily trips, 16 additional trips in the a.m. peak hour, and 51 additional trips in the p.m. peak hour compared to the Approved Project.

A comparison has also been made between the Project and the existing tennis courts and interim-use pickleball courts currently provided on site. There are 31 interim-use pickleball and 16 tennis courts on site. Compared to the actual 47 courts on the ground today as shown on Table B of Appendix E, the Project would generate 434 fewer daily trips, 17 fewer trips in the a.m. peak hour and 84 fewer trips in the p.m. peak hour.

Table 5-20: Proposed Project Trip Generation Summary Compared to Existing Court Layout

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Racquet/Tennis Club[2]		Court	27.71	0.66	0.66	1.32	1.91	1.91	3.82
Hotel		Room	7.99	0.26	0.20	0.46	0.30	0.29	0.59
Single Family Attached Housing		DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
Single Family Detached Housing		DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Existing Trip Generation									
Racquet/Tennis Club	47	Court	1302	31	31	62	90	90	180
Proposed Project Trip Generation									
Tennis & Pickleball Court	18	Court	499	12	12	24	34	34	68
Bungalow/Bungalow Loft/Fairway Loft	41	Room	328	11	8	19	12	12	24
Condominium (attached)	3	DU	22	0	1	1	1	1	2
Condominium (detached)	2	DU	19	0	1	1	1	1	2
Total Trip Generation			**868**	**23**	**22**	**45**	**48**	**48**	**96**
Net Trip Generation (Proposed Project – Existing)			**(434)**	**(8)**	**(9)**	**(17)**	**(42)**	**(42)**	**(84)**

Based on the City of Newport Beach Traffic Phasing Ordinance, any project that generates no more than 300 net daily trips is not required to prepare a traffic impact analysis. The project will generate 203 net daily trips compared to the existing (approved) uses and 434 fewer trips compared to the existing (ground) conditions.

In addition, an intersection should be analyzed in a traffic impact analysis if project trips increase traffic on any legs of any City's primary intersections by 1 percent or more during any peak hours 1 year after the project completion. Pacific Coast Highway/Newport Center Drive is a primary intersection for the City and is adjacent to the Project site. Given the anticipated future volumes at any legs of this intersection, the addition of 13 trips in the a.m. peak hour and 4 trips in the p.m. peak hour compared to the previous court layout (24 courts) is not expected to increase the traffic at any legs of this intersection or any City primary intersections by 1 percent or more 1 year after project completion. Compared to the existing court layout (47 courts), the project would generate less traffic. As such, a traffic impact analysis should not be required.

Nevertheless, the Project would implement MM-TRA-1 described below, in order to ensure that the Project would not conflict with a program, plan, ordinance or policy addressing the circulation system. This is an updated, clarified version of MM-8 that was included in the 2010 MND

MM-TRA-1 Prior to commencement of each major phase of construction (i.e., Demolition and Grading, Construction of Hotel and Tennis Clubhouse and, Construction of Residential units), the Applicant shall submit a Construction Management Plan (aka Construction Staging, Parking and Traffic Control Plan) for approval by the Public Works Department, which shall address issues pertaining to potential traffic conflicts during peak traffic periods, potential displacement of on-street parking, and safety.

- This plan shall identify the proposed construction staging area(s), construction crew parking area(s), estimated number and types of vehicles that will occur during each phase, the proposed arrival/departure routes and operational safeguards (e.g., flagmen, barricades, etc.) and hourly restrictions, if necessary, to avoid traffic conflicts during peak traffic periods and to ensure safety.
- If necessary, the Construction Management Plan shall provide for an off-site parking lot for construction crews which will be shuttled to and from the Project site at the beginning and end of each day until such time that the Project site can accommodate off-street construction vehicle parking.
- The plan shall identify all construction traffic routes, which shall avoid narrow streets unless there is no alternative, and the plan shall not include any streets where some form of construction is underway within or adjacent to the street that would impact the efficacy of the proposed route.
- Dirt hauling shall not be scheduled during weekday peak hour traffic periods.
- The approved Construction Management Plan shall be implemented throughout each major construction phase.

MM-TRA-2 The left turn pocket on Irvine Terrace at the Coast Highway shall be increased in length to a minimum of 100 feet plus transition in order to adequately accommodate left-turn movements.

No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

b) *Would the project Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

2010 MND Determination: Less than Significant Impact. The previous 2010 MND was not subject to CEQA Guidelines section 15064.3, subdivision (b).

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Project is a land use project and would reduce the size of existing private recreation facilities to include housing and hotel developments. Conversion of the land uses would result in an increase the total amount of trips generated by the Proposed Project as discussed above in Table 5-19. Ten transit stops are located within one-half-mile of the Project site, including stops along East Coast Highway, Avocado Avenue, and Newport Centre Drive. Therefore, no significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant Impact with Mitigation. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with increase in hazards with mitigation incorporated. During the construction phases, a

variety of construction vehicles, including large delivery trucks, concrete pumpers, dump trucks, and a variety of passenger vehicles, will travel to and from the subject property. On some occasions, there will be a number of medium and heavy trucks that could add to local congestion levels and possibly affect through-traffic for short periods of time. Although potential conflicts are anticipated to be less than significant, implementation of a construction traffic management plan (refer to MM-8), which is required by the City of Newport Beach, would ensure that any conflicts resulting during the construction phase would be minimized.

Proposed Project Analysis and Significance Determination: Less than Significant Impact with Mitigation. Similar to the 2010 MND, during the construction phases, a variety of construction vehicles, including large delivery trucks, concrete pumpers, dump trucks, and a variety of passenger vehicles, will travel to and from the subject property. On some occasions, there will be a number of medium and heavy trucks that could add to local congestion levels and possibly affect through-traffic for short periods of time. Although potential conflicts are anticipated to be less than significant, implementation of a construction traffic management plan (refer to MM-TRA-1), which is required by the City of Newport Beach, would ensure that any conflicts resulting during the construction phase would be minimized. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

d) *Would the project result in inadequate emergency access?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with emergency access. Primary access to the Project site is provided via a drive aisle that connects to the end of Irvine Terrace, which in turn connects to East Coast Highway (State Highway 1). Irvine Terrace also provides access to the adjacent golf course and Corporate Plaza West office development. The Irvine Terrace/East Coast Highway intersection is a signalized intersection. In addition to the Project access from Irvine Terrace, the Project proposes new private driveways, which will provide access to hotel and residential developments. Secondary access is also available from Granville Dr. located just east of the site. Adequate emergency access exists to serve the Approved Project. Nonetheless, code compliance analysis will be conducted by the Newport Beach Fire Department and Building Department to ensure that adequate emergency access is provided and maintained.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, the primary access to the Project site is provided via a drive aisle that connects to the end of Irvine Terrace, which in turn connects to East Coast Highway (State Highway 1). Irvine Terrace also provides access to the adjacent golf course and Corporate Plaza West office development. The Irvine Terrace/East Coast Highway intersection is a signalized intersection. In addition to the Project access from Irvine Terrace, the Project proposes new private driveways, which will provide access to hotel and residential developments. Secondary access is also available from Granville Dr., located east of the site. Adequate emergency access exists to serve both components of the Proposed Project. Nonetheless, code compliance analysis will be conducted by the Newport Beach Fire Department and Building Department to ensure that adequate emergency access is provided and maintained. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes a reduction of three tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to transportation would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.18 TRIBAL CULTURAL RESOURCES

18.	**TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(a)	Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
(b)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

5.18.1 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate tribal cultural resource impacts as part of the required CEQA thresholds. However, for the 2010 MND, the City of Newport Beach complied with the requirements of SB 18 by submitting a request to the NAHC In

addition, the City also sent a tribal consultation request to the Native American representative, Mr. David Belardes (Chairperson, Juaneno Band of Mission Indians Acjachemen Nation) on September 8, 2005 in compliance with both SB18 and Policy No. HR 2.3 that requires notification of cultural organizations. The City did not receive a response to the SB18 consultation request. Subsequent to that letter, a follow-up request was sent to Mr. Belardes on May 15, 2009 to apprise the Native American representative of changes to the Approved Project and request consultation with the Native Americans. As of the 2010 MND approval, no response to the consultation request had been received by the City. However, the mitigation measure noted in the Cultural Section of the 2010 MND, MM-1 would be applicable to this threshold.

Proposed Project Analysis and Significance Determination: Less than Significant with Mitigation Incorporated. The City of Newport Beach complied with the requirements of SB 18 by submitting a request to the NAHC for a Sacred Lands File (SLF) search. The City reached out to the Gabrieleno Band of Mission Indians – Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino Tongva Nation, Gabrielino Tongva Indians of California Tribal Council, Gabrielino-Tongva Tribe, Juaneno Band of Mission Indians Acjachemen Nation – Belardes, Pala Band of Mission Indians, Santa Rosa Band of Cahuilla Indians, and Soboba Band of Luiseno Indians on June 8, 2022 via both letter and email. To date, responses and requests for consultation have been received from the Juaneno Band of Mission Indians, Acjachemen Nation and Gabrielino Tongva Indians of California. Both tribes have been provided the mitigation measure (MM-1) that the City proposes to implement, including providing opportunities for interested tribes to monitor on a rotation basis. Due to the responses received, and concurrence with the mitigation measure proposed, SB 18 consultation is considered complete. With implementation of MM-1, impacts are considered less than significant.

b) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate tribal cultural resource impacts as part of the required CEQA thresholds. As noted above, for the 2010 MND, the City of Newport Beach complied with the requirements of SB 18 by submitting a request to NAHC. As of the 2010 MND approval, no response to the consultation request had been received by the City. However, the mitigation measure noted in the Cultural Section of the 2010 MND, MM-1 would be applicable to this threshold.

Proposed Project Analysis and Significance Determination: Less than Significant with Mitigation Incorporated. As noted above, the City of Newport Beach complied with the requirements of SB 18 by submitting a request to the NAHC for a SLF search. The City reached out to all tribes on the NAHC contact list on June 8, 2022 via both letter and email. To date, responses and requests for consultation have been received from the Juaneno Band of Mission Indians, Acjachemen Nation and Gabrielino Tongva Indians of California. Both tribes have been provided the mitigation measure (MM-1) that the City proposes to implement, including providing opportunities for interested tribes to monitor on a

rotation basis. Due to the responses received, and concurrence with the mitigation measure proposed, SB 18 consultation is considered complete. With implementation of MM-1, impacts are considered less than significant.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which included a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to tribal cultural resources would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.19 UTILITIES AND SERVICE SYSTEMS

19.	UTILITIES/SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
(b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
(c)	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?	☐	☐	☒	☐
(d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
(e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid wastes?	☐	☐	☒	☐

5.19.1 Impact Analysis

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or expansion of which could cause significant environmental effects?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with utility systems. The Project site is already served by existing water, wastewater, electric power, natural gas, and telecommunications facilities. Construction of the Approved Project would result in relocation and expansion of existing facilities (City 2010), however none of these are expected to result significant environmental impact. Therefore, no significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND, the Project site is already served by existing water, wastewater, electric power, natural gas, and telecommunications facilities. Construction of the Project would result in relocation and expansion of existing facilities (City 2010), however none of these are expected to result significant environmental impact. Therefore, no significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal dry and multiple dry years?

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with water supplies. The City of Newport Beach provides water service within the Project vicinity. The City's water supplies are imported water purchased from the Municipal Water District of Orange County (MWDOC), groundwater pumped from the Orange County Groundwater Basin, and reclaimed water. The City currently maintains a total system capacity of approximately 100 million gallons in three facilities. According to the City's 2005 Urban Water Management Plan (UWMP), water supplies can continue to meet the city's imported water needs until the year 2030. Beyond that date, improvements associated with the State Water Project supply, additional local projects, conservation, and additional water transfers would be needed to adequately serve the City. However, during short-term periods of water supply reductions, the City would implement its water shortage contingency plan.

As indicated in the City's General Plan Environmental Impact Report (EIR), additional development accommodated under the General Plan, including the Approved Project would increase water use within the City, thus increasing the need for water treatment services. However, as indicated above, MWDOC has indicated that it can meet all of the City's imported water needs through 2030. In addition, Orange County Water District anticipates that there would also be sufficient groundwater supplies to meet projected future demand requirements in the City. Future water demand based on the General Plan projections would not be increased significantly with the addition of the proposed development. The demand created by the Approved Project is consistent with the City's long-range projections for development that are the basis of water demands in Newport Beach. The General Plan

has identified the minimization of water consumption as one of its goals in the Natural Resources Element. The Approved Project would be subject to the policies that would achieve that goal, including limiting water usage, prohibitions on activities that waste water or cause runoff, and water efficient landscaping and irrigation in conjunction with other water conserving devices and practices in new construction. Specifically, water conservation measures will be required on the Approved Project as prescribed in Chapter 14.16 (Water Conservation and Supply Level Regulations) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. Therefore, no significant direct or cumulative impacts are anticipated based on the findings in the City's General Plan EIR; no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to the 2010 MND findings, the City of Newport Beach provides water service within the Project vicinity. The City's water supplies are imported water purchased from the Municipal Water District of Orange County (MWDOC), groundwater pumped from the Orange County Groundwater Basin, and reclaimed water. The City currently maintains a total system capacity of approximately 100 million gallons in three facilities. According to the City's 2020 UWMP, water supplies can continue to meet the city's imported water needs until the year 2045. Beyond that date, improvements associated with the State Water Project supply, additional local projects, conservation, and additional water transfers would be needed to adequately serve the City. The City expects to meet the water demand from 2020 to 2045 including multiple dry years. However, during short-term periods of water supply reductions, the City would implement its water shortage contingency plan.

As indicated in the City's General Plan EIR, additional development accommodated under the General Plan, including the Proposed Project would increase water use within the City, thus increasing the need for water treatment services. In addition, Orange County Water District anticipates that there would also be sufficient groundwater supplies to meet projected future demand requirements in the City. Future water demand based on the General Plan projections would not be increased significantly with the addition of the proposed residential development, however the increased demand from the hotel rooms have not been evaluated and will require a General Plan Amendment. The demand created by the residential portion of the Proposed Project is consistent with the City's long-range projections for development that are the basis of water demands in Newport Beach. The additional 14 hotel rooms associated with the Proposed Project, would not be expected to create an additional significant demand on water supplies based on the incorporation of water conservation measures and compliance with CalGreen building code. The General Plan has identified the minimization of water consumption as one of its goals in the Natural Resources Element. The Proposed Project would be subject to the policies that would achieve that goal, including limiting water usage, prohibitions on activities that waste water or cause runoff, and water efficient landscaping and irrigation in conjunction with other water conserving devices and practices in new construction. Specifically, water conservation measures will be required on the Proposed Project as prescribed in Chapter 14.16 (Water Conservation and Supply Level Regulations) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. Therefore, no significant direct or cumulative impacts are anticipated based on the findings in the City's General Plan EIR; no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

c) *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?*

2010 MND Determination: No Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with wastewater facilities. Water demand and wastewater generation will not increase significantly as a result of the new development of the five single-family residential dwelling units and 27 hotel rooms on the site. The Approved Project is within the land use projections of the City, which are the basis of future water demand demands and wastewater generation within Newport Beach. The Approved Project will connect to existing water and wastewater facilities in the Project vicinity. No expansion of these facilities is necessary due to existing capacity. No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. As discussed in the 2010 MND, wastewater produced within the City of Newport Beach is treated by Orange County Sanitation District, which is then provided to the Orange County Water District. Wastewater is treated by nearby water treatment plans in Fountain Valley and Huntington Beach with primary treatment capacities of 108 million gallons per day (MGD) and 168 MGD and secondary treatment capacities of 80 MGD and 90 MGD (City 2021b). Currently the average flow received at the Fountain Valley and Huntington Beach plants total 183 MGD, which is 66.3% of the daily capacity (Orange County Sanitation District 2022). The Proposed Project involves an increase in the number of hotel rooms, the water consumption rates would not be significantly higher from what was analyzed in the 2010 MND. Therefore, a less than significant impact would occur on wastewater treatment capacity. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with solid waste. Approved Project implementation will result in the generation of demolition debris and some refuse during the construction phase; however, it would be relatively small and would not adversely affect existing capacities at the County's sanitary landfills. The Project includes recycling some of the demolition materials generated during the construction phase. Asphalt and concrete will be crushed on-site and utilized as fill material to accommodate the Approved Project (City 2010). As a result, the amount of demolition materials that would require transport to and placement in one of the County's landfills would be reduced by the recycling of the asphalt and concrete.

Based on the solid waste generate rates presented in the General Plan EIR, the five single-family residential dwelling units, and the 27 hotel development and its ancillary uses would generate less than 100 pounds per day of solid waste. Because the tennis club operation currently exists, no significant increase in refuse would be anticipated as a result of the reconstruction of clubhouse. With the remaining capacity of approximately 44.6 million tons, as well as a 16-year lifespan at the Frank R. Bowerman Sanitary Landfill (without the proposed expansion that would extend the life of this facility to 2053), the City-wide potential increase in solid waste due to General Plan buildout, including

the Approved Project, would not result in the exceedance of capacity of that landfill. In addition, AB 939 mandates the reduction of solid waste. As a result, it is anticipated that at least a 50 percent reduction in refuse would be required. Therefore, the Approved Project will not result in a significant increase in solid waste production. Existing landfills are expected to have adequate capacity to service the site and use. No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. As previously discussed in the 2010 MND, Project implementation will result in the generation of demolition debris and some refuse during the construction phase; however, it would be relatively small and would not adversely affect existing capacities at the County's sanitary landfills. The Proposed Project includes recycling some of the demolition materials generated during the construction phase. Asphalt and concrete will be crushed on-site and utilized as fill material to accommodate the Proposed Project (City 2010). As a result, the amount of demolition materials that would require transport to and placement in one of the County's landfills would be reduced by the recycling of the asphalt and concrete.

Based on the solid waste generate rates presented in the General Plan EIR, the two single-family residential dwelling units, three condominiums, and the 41 hotel rooms would generate approximately 209.8 pounds per day of solid waste. Because the tennis and pickleball club currently exists, no significant increase in refuse would be anticipated as a result of the addition of the hotel rooms. With the remaining capacity of approximately 55.4 million tons, as well as a planned closure date of 2053, the Frank R. Bowerman Sanitary Landfill, the City-wide potential increase in solid waste due to General Plan buildout, including the Proposed Project, would not result in the exceedance of capacity of that landfill. The landfill has a capacity of 11,500 tons per day and the Project would produce 0.03 tons per day which is .00026% of the daily capacity (California Department of Resources Recycling and Recovery 2022). In addition, AB 939 mandates the reduction of solid waste. As a result, it is anticipated that at least a 50 percent reduction in refuse would be required. Therefore, the Project will not result in a significant increase in solid waste production due to the Proposed Project. Existing landfills are expected to have adequate capacity to service the site and use. No significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

e) *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

2010 MND Determination: Less than Significant Impact. The 2010 MND found that the design and implementation of the Approved Project would not result any significant impacts associated with solid waste regulations. Solid waste production will be picked up by either the City of Newport Beach or a commercial provider licensed by the City of Newport Beach (City 2010). All federal, state, and local regulations related to solid waste will be adhered to through this process. No significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. As discussed in the 2010 MND, solid waste production will be picked up by City's service contract commercial provider, CR&R Environmental Services (City 2022). All federal, state, and local regulations related to solid waste will be adhered to through this process. No significant impacts are

anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site and, compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to utilities and service systems would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.20 WILDFIRE

20.	WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
(c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
(d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

5.20.1 Impact Analysis

a) Would the project impair an adopted emergency response plan or emergency evacuation plan?

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate wildfire impacts as part of the required CEQA thresholds. However as discussed in Section 5.9.1 (f), this topic was addressed but Wildfire was not its own topic at the time.

The 2010 MND found that the design and implementation of the Approved Project would not result in any impacts associated with exposure to wildland fires. As discussed in the 2010 MND, neither the

Project site nor the surrounding areas are located within a "Potential Fire Hazard Area" as identified by the Newport General Plan Public Safety Element (City 2010). The subject property is located within an urbanized area of the City of Newport Beach. No significant areas of natural vegetation and/or habitat exists on the site and the Approved Project would not be directly affected by the potential for wildland fires. There are no major urban or wildland fire hazards that pose a significant threat to the development. Therefore, the site is not subject to a potential risk of wildland fires. No significant impacts as a result of wildland fires will occur if the Project is implemented and no mitigation measures are necessary.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The City of Newport Beach has prepared an Emergency Operations Plan that designates procedures to be followed in case of a major emergency (City 2010). East Coast Highway is designated as an evacuation route in the City. The Project site is not designated for emergency use within the Emergency Operations Plan. The primary concern of the Public Safety Element and the City of Newport Beach is in terms of risks to persons and personal property. Development of the subject property as proposed will not adversely affect either the evacuation routes or the adopted emergency operations planning program(s) being implemented by the City of Newport Beach. Potential circulation impacts associated with construction will be temporary in nature and will be addressed through the Construction Management Plan that will be implemented, refer to Section 5.17.2 (a). In addition, any construction vehicles within the public right of way are prohibited from completely blocking vehicular and emergency access by the Vehicle Code. As a result, potential short-term circulation impacts associated with construction would not be significant. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate wildfire impacts as part of the required CEQA thresholds. No previous analysis is available.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Proposed Project is not located in an area identified for its high fire risk (California Department of Forestry and Fire Protection 2022). The Project site is located on a relatively flat portion of the City with significant urban development surrounding the Project site and does not provide natural vegetation or habitat to support the spread of wildfires. Therefore, implementation of the Proposed Project would result in a less than significant impact. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate wildfire impacts as part of the required CEQA thresholds. No previous analysis is available.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Project site is located in an urban built up environment with minimal risk for fires on site. Infrastructure associated with the Project would be ungrounded as much as possible, and maintenance associated with the infrastructure is unlikely to increase wildfire risk. Therefore, a less than significant impact would occur.

d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability or drainage changes?*

2010 MND Determination: Not applicable. The 2010 MND was not required to evaluate wildfire impacts as part of the required CEQA thresholds. No previous analysis is available.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. The Project is not located within the Local Responsibility Area Very High Fire Severity Zone; however, it would introduce new residents into the area. As discussed in Section 5.10, Hydrology and Water Quality, although development of the Project would reduce the amount of impervious surfaces, a slight increase in the volume of stormwater runoff from the site could occur during major storm events. This increase in runoff volume could potentially increase the rate of surface runoff and flooding on or off site. However, landscaping included within the Project area would help reduce offsite flows and reduce runoff volumes and rates. The Project site is flat and does not contain any slopes that pose a risk of landslide or slope instability, nor does the Project face a risk from upstream flooding or landslides. No significant impacts are anticipated, and no mitigation measures are required.

Summary of Impacts

The 2010 MND provided an analysis of a larger project that included improvements on both the Golf Club and Tennis Club sites which included work on approximately 145 acres. Ultimately, only the improvements proposed on the 7-acre Tennis Club site was approved, which include a new tennis club house and retention of seven (7) tennis courts, a new 27-unit hotel, and 5 single-unit residential dwellings. The Proposed Project is located on the same Tennis Club site, and compared to the Approved Project, includes three fewer tennis courts, 14 additional pickleball courts, 14 additional hotel rooms and hotel auxiliary uses, and three of the five residential homes would be converted to condominiums. The Approved Project has not been implemented to date, while the Proposed Project will result in an increase in intensity of use at the Tennis Club site, impacts to wildfires would be similar to the Approved Project and overall reduced in comparison to what was originally analyzed in the 2010 MND.

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

5.21.1 Impact Analysis

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

2010 MND Determination: Less than Significant Impact. The Approved Project was determined to not have the potential to degrade the quality of the environment. The site is entirely developed with private recreational uses and has been altered from its natural state. As a result, it does not support sensitive habitat and/or sensitive plant or animal species. The Approved Project would not reduce the habitat of a wildlife species and/or threaten to eliminate one or more sensitive plant species. No historic structures or sites are present in the Project area, which may be affected by the Approved Project. The Approved Project would not eliminate important examples of the major periods of California history or prehistory. Therefore, no significant impacts are anticipated, and no mitigation measures are required.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to what was found in the 2010 MND, the Proposed Project would not have the potential to degrade the quality of the environment. The site is entirely developed with private recreational uses and has been altered from its natural state. As a result, it does not support sensitive habitat and/or sensitive plant or animal species. As a result, the Proposed Project would not reduce the habitat of wildlife species and/or threaten to eliminate one or more sensitive plant species. No historic structures or sites are

present in the Project area, which may be impacted by the Proposed Project. The Proposed Project would not eliminate important examples of the major periods of California history or pre-history. Therefore, no significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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?)*

2010 MND Determination: Less than Significant Impact. Redevelopment of the Approved Project site was determined to result in a negligible difference in long-term environmental effects associated with use of the site. Project implementation would result in fewer vehicular trips and, therefore, a reduction in the pollutant emissions when compared to the existing use of the site. No significant impacts to biological resources, cultural resources, public health and safety, mineral resources, population and housing, agricultural resources or other environmental issues would occur. In addition, the Approved Project would result in an overall reduction in the volume of storm runoff and an improvement in the quality of the water prior to its discharge when compared· to the existing use of the site. Therefore, the Project would not contribute to the cumulative degradation of the environment or exacerbate unacceptable environmental conditions (e.g., biological resources, etc.) when considered with other projects proposed in the Project environs.

Proposed Project Analysis and Significance Determination: Less than Significant Impact. Similar to what was found in the 2010 MND, the Proposed Project would not result in any cumulatively considerable impacts. Redevelopment of the subject property as proposed would result in a negligible difference in the long-term, environmental impacts associated with use of the site. Project implementation would result a slightly increase of trips compared to the Approved Project, as noted in Sections 5.3 Air Quality and 5.8 Greenhouse Gas Emissions, emissions from the Project would not cause cumulative impacts. In addition, the Proposed Project would result in an overall reduction in stormwater runoff and an improvement in the quality of water prior to its discharge when compared to the existing use of the site. Based on a list of potential cumulative projects provided by the City, the following nearby projects were considered in the analysis of potential cumulative impacts:

- Mother's Market – 2510 West Coast Highway - Application submitted
- Newport Beach Autonation – 445 East Coast Highway – Application submitted
- 215 Riverside Office and Parking Structure – 215 Riverside Avenue – Application pending
- The Garden Restaurant – 2902 West Coast Highway – Class 32 Exemption under preparation
- Newport Village – 2200-2244 West Coast Highway and 20012241 West Coast Highway – Application submitted
- Ritz Carlton Residences – 900 Newport Center Drive – Approved May 2022
- Residences at Newport Center – 150 Newport Center Drive, Approved October 2021
- 2510 PCH Mixed-Use Development – 2510 East Coast Highway and 2530 West Coast Highway – Approved July 2021
- Vivante Senior Living – 850 & 865 San Clemente Drive – Construction ongoing
- 10 Big Canyon – 10 Big Canyon Drive – Approved 2011 but not constructed

- Old Newport GPA Project – 328, 332, and 340 Old Newport Blvd – Construction ongoing
- Hoag Memorial Presbyterian Master Plan Update Project – 1 Hoag Dr – Construction planned for near future
- Saint Mark Presbyterian Church – 2200 San Joaquin Road – Ongoing construction of pre-school
- Mariners Square – 1244 Irvine Avenue – Construction ongoing
- Back Bay Landing- 300 East Coast Highway – Application on hold
- Balboa Marina Expansion – 201 East Coast Highway – Application on hold
- Confined Aquatic Disposal (CAD) and Harbor Dredging – Lower Newport Harbor between Lido Isle and Bay Island– Construction to start April 2023
- Junior Lifeguard – Balboa Village Parking Lot – Construction ongoing
- Old Newport Blvd/West Coast Highway Widening – Intersection of Old Newport Blvd and West Coast Highway – Ongoing coordination with Caltrans
- Library Lecture Hall – Central Library near Avocado Avenue and Bamboo Courtyard – Approval anticipated February 2023

Due to the Proposed Project's levels of impacts and the limited nature of construction impacts, the potential cumulative projects are not anticipated to cause significant impacts. Therefore, the Project would not contribute to the cumulative degradation of the environment or exacerbate unacceptable environmental conditions when considered with other projects proposed in the area. No significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

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

2010 MND Determination: Less than Significant with Mitigation Incorporated. The analysis provided in the preceding sections indicated that although Approved Project implementation could result in some potentially significant environmental impacts (e.g., Geology and Soils, Hazards and Hazardous Materials, etc.), with the implementation of mitigation measures provided in the analysis, the Proposed Project would not result in significant impacts on humans, either directly or indirectly. No significant impacts are anticipated.

Proposed Project Analysis and Significance Determination: Less than Significant with Mitigation Incorporated. The analysis provided in the preceding sections indicated that although Project implementation could result in some potentially significant environmental impacts (e.g., Geology and Soils, Hazards and Hazardous Materials, etc.), with the implementation of mitigation measures provided in the analysis, the Proposed Project would not result in significant impacts on humans, either directly or indirectly. No significant impacts are anticipated, and no mitigation measures are required. No new impacts would result from the Proposed Project and no major revisions to the 2010 MND will be required.

SECTION 6.0 – REFERENCES

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2022 Trash and Recycling. Accessed August 10, 2022 at: https://www.newportbeachca.gov/government/departments/public-works/municipal-operations/trash-recycling

Federal Transit Administration (FTA)
2018 Transit Noise and Vibration Impact Assessment Manual (FTA Manual) https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Google
2022 Google Earth. Accessed July 5, 2022 at: https://earth.google.com/web/

LSA
2022 Newport Beach Country Club Traffic and Parking Analysis Update, Newport Beach, California. Prepared July 13, 2022. Included as Appendix E.

Orange County Sanitation District
2022 Facts and Key Statistics. Accessed July 5, 2022 at: https://www.ocsan.gov/home/showpublisheddocument/29768/637625490758870000

South Coast Air Quality Management District (SCAQMD)
1993 CEQA Air Quality Handbook. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2

2008

Southern California Association of Governments (SCAG)
2019 2019 Federal Transportation Improvement Program. https://scag.ca.gov/sites/main/files/file-attachments/f2019-ftip_executivesummary.pdf?1605767003.

2020 Regional Transportation Plan/Sustainable Communities Strategy (RTC/SCS). Also known as ConnectSoCal. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176

United States Fish and Wildlife Service (USFWS)
2022 Wetland Inventory Mapper. Accessed May 25, 2022 at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

Western Regional Climate Center (WRCC)
2016 Newport Beach Harbor, California Period of Record Monthly Climate Summary. *https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6175*

APPENDIX A – Air Quality, Energy, and GHG Emissions Outputs

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Newport Beach Tennis Club Amendment

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	64.00	Space	1.00	25,600.00	0
Hotel	41.00	Room	2.50	61,870.00	0
Racquet Club	3.73	1000sqft	0.40	3,725.00	0
Condo/Townhouse	3.00	Dwelling Unit	0.60	15,035.00	9
Single Family Housing	2.00	Dwelling Unit	0.50	5,618.00	6
Enclosed Parking with Elevator	67.00	Space	0.60	26,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2032
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 41 room 61,870 SF Hotel, 3,725 SF Raquet Club, 2 SFH 5,618 SF, 3 Condos 15,035 SF and 64 spaces surface parking and 67 spaces enclosed

Construction Phase - Construction Phases and Schedule provided by applicant

Off-road Equipment - Phase 1 - Temporary Structures - 2 Tractors-Loaders-Backhoes and 1 Off-Highway Truck

Off-road Equipment - Phase 2 - Demo - 1 Excavator, 1 Crusher, 2 Tractors-Loaders-Backhoes

Off-road Equipment - Phase 3 Grading - 1 Excavator, 1 Grader, 1 Dozer (Crawler Tractor), 1 Rubber-Tired Dozer, 1 Scraper, 2 Tractors-Loaders-Backhoes

Off-road Equipment - Phases 4&5 Painting - 1 Air Compressor

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Phases 4&5 Building Construction - 2 Cranes, 2 Forklifts, 1 Welder

Off-road Equipment - Phases 4&5 Paving - 1 Grader, 1 Paver, 1 Paving Equipment, 1 Roller, 2 Tractors-Loaders-Backhoes

Trips and VMT - In order to account for water truck emissions, 6 vendor trucks added to Demolition and Grading Phases

Demolition - 300 tons of Building Material and 7225 tons of Asphalt-Concrete to be hauled offsite (7,525 tons total)

Grading -

Vehicle Trips - Daily Trip Rates from 1-18-23 Traffic Memo

Woodstoves - No Woodstoves or Fireplaces in Homes. Up to 4 natural gas fireplaces-firepits in common areas

Construction Off-road Equipment Mitigation - Water Exposed Area 3x per day selected to account for SCAQMD Rule 403 Minimum requirements

Mobile Land Use Mitigation - 250 feet (0.05 mile) from OCTA Newport Center-Civic Center Bus Stop

Water Mitigation - Install low-flow fixtures and use water-efficient irrigation selected to account for Title 24 Part 11 min requirements

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	3.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	230.00	400.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	PhaseEndDate	2/12/2031	1/6/2031
tblConstructionPhase	PhaseEndDate	1/29/2031	2/3/2031
tblConstructionPhase	PhaseEndDate	3/12/2031	3/31/2031
tblConstructionPhase	PhaseEndDate	1/28/2032	10/13/2032
tblConstructionPhase	PhaseEndDate	2/25/2032	10/13/2032
tblConstructionPhase	PhaseEndDate	3/24/2032	10/13/2032
tblConstructionPhase	PhaseStartDate	1/30/2031	1/2/2031
tblConstructionPhase	PhaseStartDate	1/2/2031	1/7/2031
tblConstructionPhase	PhaseStartDate	2/13/2031	2/4/2031
tblConstructionPhase	PhaseStartDate	3/13/2031	4/3/2031
tblConstructionPhase	PhaseStartDate	1/29/2032	8/12/2032
tblConstructionPhase	PhaseStartDate	2/26/2032	8/12/2032

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFireplaces	NumberGas	2.55	4.00
tblFireplaces	NumberGas	1.70	0.00
tblFireplaces	NumberNoFireplace	0.30	0.00
tblFireplaces	NumberNoFireplace	0.20	2.00
tblFireplaces	NumberWood	0.15	0.00
tblFireplaces	NumberWood	0.10	0.00
tblLandUse	LandUseSquareFeet	59,532.00	61,870.00
tblLandUse	LandUseSquareFeet	3,730.00	3,725.00
tblLandUse	LandUseSquareFeet	3,000.00	15,035.00
tblLandUse	LandUseSquareFeet	3,600.00	5,618.00
tblLandUse	LotAcreage	0.58	1.00
tblLandUse	LotAcreage	1.37	2.50
tblLandUse	LotAcreage	0.09	0.40
tblLandUse	LotAcreage	0.19	0.60
tblLandUse	LotAcreage	0.65	0.50
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	8.14	7.33
tblVehicleTrips	ST_TR	8.19	8.00
tblVehicleTrips	ST_TR	21.35	133.96
tblVehicleTrips	ST_TR	9.54	9.50
tblVehicleTrips	SU_TR	6.28	7.33
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	SU_TR	17.40	133.96
tblVehicleTrips	SU_TR	8.55	9.50
tblVehicleTrips	WD_TR	7.32	7.33
tblVehicleTrips	WD_TR	8.36	8.00
tblVehicleTrips	WD_TR	14.03	133.96
tblVehicleTrips	WD_TR	9.44	9.50
tblWoodstoves	NumberCatalytic	0.15	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.15	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00

2.0 Emissions Summary

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2031	2.7031	11.9606	18.1608	0.0599	8.9129	0.4039	9.3168	3.6609	0.4038	4.0647	0.0000	5,997.5495	5,997.5495	0.3480	0.3466	6,008.9309
2032	19.2459	12.0566	24.4904	0.0619	0.9886	0.3483	1.3369	0.2651	0.3480	0.6130	0.0000	5,959.4418	5,959.4418	0.2403	0.0601	5,983.3430
Maximum	**19.2459**	**12.0566**	**24.4904**	**0.0619**	**8.9129**	**0.4039**	**9.3168**	**3.6609**	**0.4038**	**4.0647**	**0.0000**	**5,997.5495**	**5,997.5495**	**0.3480**	**0.3466**	**6,008.9309**

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	lb/day										lb/day					
2031	2.7031	11.9606	18.1608	0.0599	3.9388	0.4039	4.0749	1.4670	0.4038	1.8709	0.0000	5,997.5495	5,997.5495	0.3480	0.3466	6,008.9309
2032	19.2459	12.0566	24.4904	0.0619	0.9886	0.3483	1.3369	0.2651	0.3480	0.6130	0.0000	5,959.4417	5,959.4417	0.2403	0.0601	5,983.3429
Maximum	**19.2459**	**12.0566**	**24.4904**	**0.0619**	**3.9388**	**0.4039**	**4.0749**	**1.4670**	**0.4038**	**1.8709**	**0.0000**	**5,997.5495**	**5,997.5495**	**0.3480**	**0.3466**	**6,008.9309**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	50.24	0.00	49.20	55.88	0.00	46.90	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Area	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106
Energy	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791
Mobile	1.5752	1.2864	13.9956	0.0308	4.0914	0.0181	4.1095	1.0906	0.0168	1.1074		3,356.3026	3,356.3026	0.2046	0.1369	3,402.2130
Total	**3.5964**	**1.9672**	**14.9549**	**0.0350**	**4.0914**	**0.0722**	**4.1636**	**1.0906**	**0.0710**	**1.1615**	**0.0000**	**4,175.1110**	**4,175.1110**	**0.2211**	**0.1519**	**4,225.9027**

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	lb/day										lb/day					
Area	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106
Energy	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791
Mobile	1.3941	1.0598	11.3274	0.0235	3.0908	0.0142	3.1050	0.8239	0.0132	0.8371		2,559.9240	2,559.9240	0.1685	0.1121	2,597.5481
Total	**3.4153**	**1.7406**	**12.2867**	**0.0276**	**3.0908**	**0.0684**	**3.1592**	**0.8239**	**0.0674**	**0.8912**	**0.0000**	**3,378.7324**	**3,378.7324**	**0.1850**	**0.1271**	**3,421.2378**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	5.04	11.52	17.84	20.94	24.46	5.36	24.12	24.46	5.07	23.27	0.00	19.07	19.07	16.33	16.31	19.04

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 2 - Demolition	Demolition	1/7/2031	2/3/2031	5	20	
2	Phase 1 - Temporary Structures	Site Preparation	1/2/2031	1/6/2031	5	3	
3	Phase 3 - Grading	Grading	2/4/2031	3/31/2031	5	40	
4	Phases 4 & 5 - Building Construction	Building Construction	4/3/2031	10/13/2032	5	400	
5	Phases 4 & 5 - Paving	Paving	8/12/2032	10/13/2032	5	45	
6	Phases 4 & 5 - Architectural Coating	Architectural Coating	8/12/2032	10/13/2032	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 100

Acres of Paving: 1.6

Residential Indoor: 41,822; Residential Outdoor: 13,941; Non-Residential Indoor: 98,393; Non-Residential Outdoor: 32,798; Striped Parking Area: 3,144 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 3 - Grading	Rubber Tired Dozers	1	8.00	247	0.40
Phase 1 - Temporary Structures	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phases 4 & 5 - Paving	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Scrapers	1	8.00	367	0.48

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase 3 - Grading	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Graders	1	8.00	187	0.41
Phases 4 & 5 - Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 - Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phases 4 & 5 - Building Construction	Cranes	2	8.00	231	0.29
Phases 4 & 5 - Building Construction	Forklifts	2	8.00	89	0.20
Phases 4 & 5 - Building Construction	Welders	1	8.00	46	0.45
Phase 1 - Temporary Structures	Off-Highway Trucks	1	8.00	402	0.38
Phases 4 & 5 - Paving	Pavers	1	8.00	130	0.42
Phases 4 & 5 - Paving	Paving Equipment	1	8.00	132	0.36
Phases 4 & 5 - Paving	Rollers	1	8.00	80	0.38
Phase 3 - Grading	Crawler Tractors	1	8.00	212	0.43
Phases 4 & 5 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 2 - Demolition	Tractors/Loaders/Backhoes	2	8.00	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
Phase 1 - Temporary Structures	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Demolition	4	10.00	6.00	744.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Grading	7	18.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phases 4 & 5 - Building Construction	5	52.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phases 4 & 5 - Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phases 4 & 5 - Architectural Coating	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase 2 - Demolition - 2031

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	lb/day										lb/day					
Fugitive Dust					8.0514	0.0000	8.0514	1.2191	0.0000	1.2191			0.0000			0.0000
Off-Road	0.8866	4.6008	12.5265	0.0209		0.1066	0.1066		0.1066	0.1066		1,982.8556	1,982.8556	0.0784		1,984.8167
Total	**0.8866**	**4.6008**	**12.5265**	**0.0209**	**8.0514**	**0.1066**	**8.1580**	**1.2191**	**0.1066**	**1.3257**		**1,982.8556**	**1,982.8556**	**0.0784**		**1,984.8167**

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	lb/day										lb/day					
Hauling	0.0698	4.0024	1.7185	0.0176	0.6486	0.0281	0.6767	0.1776	0.0268	0.2044		2,048.4474	2,048.4474	0.2610	0.3302	2,153.3678
Vendor	5.4600e-003	0.1997	0.0856	9.1000e-004	0.0384	1.0900e-003	0.0395	0.0110	1.0400e-003	0.0121		101.4649	101.4649	7.5800e-003	0.0150	106.1226
Worker	0.0183	9.5200e-003	0.2092	7.6000e-004	0.1118	3.6000e-004	0.1121	0.0296	3.3000e-004	0.0300		82.4218	82.4218	1.0700e-003	1.4300e-003	82.8752
Total	**0.0935**	**4.2115**	**2.0133**	**0.0193**	**0.7988**	**0.0295**	**0.8282**	**0.2183**	**0.0282**	**0.2465**		**2,232.3340**	**2,232.3340**	**0.2696**	**0.3466**	**2,342.3657**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase 2 - Demolition - 2031

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	lb/day										lb/day					
Fugitive Dust					3.1400	0.0000	3.1400	0.4754	0.0000	0.4754			0.0000			0.0000
Off-Road	0.8866	4.6008	12.5265	0.0209		0.1066	0.1066		0.1066	0.1066	0.0000	1,982.8556	1,982.8556	0.0784		1,984.8167
Total	**0.8866**	**4.6008**	**12.5265**	**0.0209**	**3.1400**	**0.1066**	**3.2467**	**0.4754**	**0.1066**	**0.5821**	**0.0000**	**1,982.8556**	**1,982.8556**	**0.0784**		**1,984.8167**

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	lb/day										lb/day					
Hauling	0.0698	4.0024	1.7185	0.0176	0.6486	0.0281	0.6767	0.1776	0.0268	0.2044		2,048.4474	2,048.4474	0.2610	0.3302	2,153.3678
Vendor	5.4600e-003	0.1997	0.0856	9.1000e-004	0.0384	1.0900e-003	0.0395	0.0110	1.0400e-003	0.0121		101.4649	101.4649	7.5800e-003	0.0150	106.1226
Worker	0.0183	9.5200e-003	0.2092	7.6000e-004	0.1118	3.6000e-004	0.1121	0.0296	3.3000e-004	0.0300		82.4218	82.4218	1.0700e-003	1.4300e-003	82.8752
Total	**0.0935**	**4.2115**	**2.0133**	**0.0193**	**0.7988**	**0.0295**	**0.8282**	**0.2183**	**0.0282**	**0.2465**		**2,232.3340**	**2,232.3340**	**0.2696**	**0.3466**	**2,342.3657**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase 1 - Temporary Structures - 2031

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.9292	3.2961	7.6798	0.0211		0.0840	0.0840		0.0840	0.0840		2,258.2377	2,258.2377	0.0818		2,260.2835
Total	**0.9292**	**3.2961**	**7.6798**	**0.0211**	**0.0000**	**0.0840**	**0.0840**	**0.0000**	**0.0840**	**0.0840**		**2,258.2377**	**2,258.2377**	**0.0818**		**2,260.2835**

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	lb/day										lb/day					
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
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
Worker	0.0146	7.6200e-003	0.1674	6.1000e-004	0.0894	2.8000e-004	0.0897	0.0237	2.6000e-004	0.0240		65.9374	65.9374	8.6000e-004	1.1500e-003	66.3002
Total	**0.0146**	**7.6200e-003**	**0.1674**	**6.1000e-004**	**0.0894**	**2.8000e-004**	**0.0897**	**0.0237**	**2.6000e-004**	**0.0240**		**65.9374**	**65.9374**	**8.6000e-004**	**1.1500e-003**	**66.3002**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase 1 - Temporary Structures - 2031

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.9292	3.2961	7.6798	0.0211		0.0840	0.0840		0.0840	0.0840	0.0000	2,258.2377	2,258.2377	0.0818		2,260.2835
Total	**0.9292**	**3.2961**	**7.6798**	**0.0211**	**0.0000**	**0.0840**	**0.0840**	**0.0000**	**0.0840**	**0.0840**	**0.0000**	**2,258.2377**	**2,258.2377**	**0.0818**		**2,260.2835**

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	lb/day										lb/day					
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
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
Worker	0.0146	7.6200e-003	0.1674	6.1000e-004	0.0894	2.8000e-004	0.0897	0.0237	2.6000e-004	0.0240		65.9374	65.9374	8.6000e-004	1.1500e-003	66.3002
Total	**0.0146**	**7.6200e-003**	**0.1674**	**6.1000e-004**	**0.0894**	**2.8000e-004**	**0.0897**	**0.0237**	**2.6000e-004**	**0.0240**		**65.9374**	**65.9374**	**8.6000e-004**	**1.1500e-003**	**66.3002**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase 3 - Grading - 2031

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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.6648	11.7438	17.6987	0.0576		0.4022	0.4022		0.4022	0.4022		5,747.7254	5,747.7254	0.2363		5,753.6328
Total	**2.6648**	**11.7438**	**17.6987**	**0.0576**	**8.6733**	**0.4022**	**9.0755**	**3.5965**	**0.4022**	**3.9987**		**5,747.7254**	**5,747.7254**	**0.2363**		**5,753.6328**

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	lb/day										lb/day					
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
Vendor	5.4600e-003	0.1997	0.0856	9.1000e-004	0.0384	1.0900e-003	0.0395	0.0110	1.0400e-003	0.0121		101.4649	101.4649	7.5800e-003	0.0150	106.1226
Worker	0.0328	0.0171	0.3766	1.3600e-003	0.2012	6.4000e-004	0.2018	0.0534	5.9000e-004	0.0540		148.3592	148.3592	1.9300e-003	2.5800e-003	149.1754
Total	**0.0383**	**0.2168**	**0.4621**	**2.2700e-003**	**0.2396**	**1.7300e-003**	**0.2413**	**0.0644**	**1.6300e-003**	**0.0660**		**249.8240**	**249.8240**	**9.5100e-003**	**0.0176**	**255.2981**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase 3 - Grading - 2031

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	lb/day										lb/day					
Fugitive Dust					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	2.6648	11.7438	17.6987	0.0576		0.4022	0.4022		0.4022	0.4022	0.0000	5,747.7254	5,747.7254	0.2363		5,753.6328
Total	**2.6648**	**11.7438**	**17.6987**	**0.0576**	**3.3826**	**0.4022**	**3.7848**	**1.4026**	**0.4022**	**1.8048**	**0.0000**	**5,747.7254**	**5,747.7254**	**0.2363**		**5,753.6328**

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	lb/day										lb/day					
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
Vendor	5.4600e-003	0.1997	0.0856	9.1000e-004	0.0384	1.0900e-003	0.0395	0.0110	1.0400e-003	0.0121		101.4649	101.4649	7.5800e-003	0.0150	106.1226
Worker	0.0328	0.0171	0.3766	1.3600e-003	0.2012	6.4000e-004	0.2018	0.0534	5.9000e-004	0.0540		148.3592	148.3592	1.9300e-003	2.5800e-003	149.1754
Total	**0.0383**	**0.2168**	**0.4621**	**2.2700e-003**	**0.2396**	**1.7300e-003**	**0.2413**	**0.0644**	**1.6300e-003**	**0.0660**		**249.8240**	**249.8240**	**9.5100e-003**	**0.0176**	**255.2981**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2031

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863		1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**		**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0182	0.6656	0.2853	3.0400e-003	0.1279	3.6400e-003	0.1315	0.0368	3.4800e-003	0.0403		338.2162	338.2162	0.0253	0.0500	353.7421
Worker	0.0949	0.0495	1.0878	3.9400e-003	0.5812	1.8500e-003	0.5831	0.1542	1.7000e-003	0.1559		428.5932	428.5932	5.5800e-003	7.4400e-003	430.9513
Total	**0.1131**	**0.7151**	**1.3731**	**6.9800e-003**	**0.7091**	**5.4900e-003**	**0.7146**	**0.1910**	**5.1800e-003**	**0.1961**		**766.8094**	**766.8094**	**0.0308**	**0.0574**	**784.6934**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2031

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863	0.0000	1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**	**0.0000**	**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0182	0.6656	0.2853	3.0400e-003	0.1279	3.6400e-003	0.1315	0.0368	3.4800e-003	0.0403		338.2162	338.2162	0.0253	0.0500	353.7421
Worker	0.0949	0.0495	1.0878	3.9400e-003	0.5812	1.8500e-003	0.5831	0.1542	1.7000e-003	0.1559		428.5932	428.5932	5.5800e-003	7.4400e-003	430.9513
Total	**0.1131**	**0.7151**	**1.3731**	**6.9800e-003**	**0.7091**	**5.4900e-003**	**0.7146**	**0.1910**	**5.1800e-003**	**0.1961**		**766.8094**	**766.8094**	**0.0308**	**0.0574**	**784.6934**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2032

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863		1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**		**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0180	0.6623	0.2859	2.9900e-003	0.1279	3.6300e-003	0.1315	0.0368	3.4700e-003	0.0403		332.5703	332.5703	0.0254	0.0493	347.8926
Worker	0.0900	0.0470	1.0575	3.8700e-003	0.5812	1.7400e-003	0.5830	0.1542	1.6000e-003	0.1558		423.6993	423.6993	5.2300e-003	7.2700e-003	425.9965
Total	**0.1080**	**0.7092**	**1.3433**	**6.8600e-003**	**0.7091**	**5.3700e-003**	**0.7145**	**0.1910**	**5.0700e-003**	**0.1960**		**756.2696**	**756.2696**	**0.0306**	**0.0566**	**773.8891**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2032

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863	0.0000	1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**	**0.0000**	**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0180	0.6623	0.2859	2.9900e-003	0.1279	3.6300e-003	0.1315	0.0368	3.4700e-003	0.0403		332.5703	332.5703	0.0254	0.0493	347.8926
Worker	0.0900	0.0470	1.0575	3.8700e-003	0.5812	1.7400e-003	0.5830	0.1542	1.6000e-003	0.1558		423.6993	423.6993	5.2300e-003	7.2700e-003	425.9965
Total	**0.1080**	**0.7092**	**1.3433**	**6.8600e-003**	**0.7091**	**5.3700e-003**	**0.7145**	**0.1910**	**5.0700e-003**	**0.1960**		**756.2696**	**756.2696**	**0.0306**	**0.0566**	**773.8891**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phases 4 & 5 - Paving - 2032

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	lb/day										lb/day					
Off-Road	1.3264	6.5297	14.1436	0.0297		0.2355	0.2355		0.2355	0.2355		2,810.8311	2,810.8311	0.1181		2,813.7846
Paving	0.0582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3846**	**6.5297**	**14.1436**	**0.0297**		**0.2355**	**0.2355**		**0.2355**	**0.2355**		**2,810.8311**	**2,810.8311**	**0.1181**		**2,813.7846**

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	lb/day										lb/day					
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
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
Worker	0.0260	0.0136	0.3050	1.1200e-003	0.1677	5.0000e-004	0.1682	0.0445	4.6000e-004	0.0449		122.2210	122.2210	1.5100e-003	2.1000e-003	122.8836
Total	**0.0260**	**0.0136**	**0.3050**	**1.1200e-003**	**0.1677**	**5.0000e-004**	**0.1682**	**0.0445**	**4.6000e-004**	**0.0449**		**122.2210**	**122.2210**	**1.5100e-003**	**2.1000e-003**	**122.8836**

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phases 4 & 5 - Paving - 2032

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	lb/day										lb/day					
Off-Road	1.3264	6.5297	14.1436	0.0297		0.2355	0.2355		0.2355	0.2355	0.0000	2,810.8311	2,810.8311	0.1181		2,813.7846
Paving	0.0582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3846**	**6.5297**	**14.1436**	**0.0297**		**0.2355**	**0.2355**		**0.2355**	**0.2355**	**0.0000**	**2,810.8311**	**2,810.8311**	**0.1181**		**2,813.7846**

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	lb/day										lb/day					
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
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
Worker	0.0260	0.0136	0.3050	1.1200e-003	0.1677	5.0000e-004	0.1682	0.0445	4.6000e-004	0.0449		122.2210	122.2210	1.5100e-003	2.1000e-003	122.8836
Total	**0.0260**	**0.0136**	**0.3050**	**1.1200e-003**	**0.1677**	**5.0000e-004**	**0.1682**	**0.0445**	**4.6000e-004**	**0.0449**		**122.2210**	**122.2210**	**1.5100e-003**	**2.1000e-003**	**122.8836**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phases 4 & 5 - Architectural Coating - 2032

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	lb/day										lb/day					
Archit. Coating	16.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**16.8391**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

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	lb/day										lb/day					
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
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
Worker	0.0173	9.0400e-003	0.2034	7.4000e-004	0.1118	3.3000e-004	0.1121	0.0296	3.1000e-004	0.0300		81.4806	81.4806	1.0100e-003	1.4000e-003	81.9224
Total	**0.0173**	**9.0400e-003**	**0.2034**	**7.4000e-004**	**0.1118**	**3.3000e-004**	**0.1121**	**0.0296**	**3.1000e-004**	**0.0300**		**81.4806**	**81.4806**	**1.0100e-003**	**1.4000e-003**	**81.9224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phases 4 & 5 - Architectural Coating - 2032

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	lb/day										lb/day					
Archit. Coating	16.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**16.8391**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

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	lb/day										lb/day					
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
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
Worker	0.0173	9.0400e-003	0.2034	7.4000e-004	0.1118	3.3000e-004	0.1121	0.0296	3.1000e-004	0.0300		81.4806	81.4806	1.0100e-003	1.4000e-003	81.9224
Total	**0.0173**	**9.0400e-003**	**0.2034**	**7.4000e-004**	**0.1118**	**3.3000e-004**	**0.1121**	**0.0296**	**3.1000e-004**	**0.0300**		**81.4806**	**81.4806**	**1.0100e-003**	**1.4000e-003**	**81.9224**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

Improve Pedestrian Network

	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	lb/day										lb/day					
Mitigated	1.3941	1.0598	11.3274	0.0235	3.0908	0.0142	3.1050	0.8239	0.0132	0.8371		2,559.9240	2,559.9240	0.1685	0.1121	2,597.5481
Unmitigated	1.5752	1.2864	13.9956	0.0308	4.0914	0.0181	4.1095	1.0906	0.0168	1.1074		3,356.3026	3,356.3026	0.2046	0.1369	3,402.2130

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	21.99	21.99	21.99	75,143	56,766
Hotel	328.00	328.00	328.00	782,664	591,258
Parking Lot	0.00	0.00	0.00		
Racquet Club	499.67	499.67	499.67	1,018,950	769,758
Single Family Housing	19.00	19.00	19.00	64,926	49,048
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	868.66	868.66	868.66	1,941,683	1,466,831

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Single Family Housing	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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Hotel	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Parking Lot	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Racquet Club	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Single Family Housing	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Enclosed Parking with Elevator	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	lb/day										lb/day					
NaturalGas Mitigated	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791
NaturalGas Unmitigated	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Condo/Townhouse	135.661	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003		15.9601	15.9601	3.1000e-004	2.9000e-004	16.0550
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
Hotel	5754.76	0.0621	0.5642	0.4739	3.3900e-003		0.0429	0.0429		0.0429	0.0429		677.0303	677.0303	0.0130	0.0124	681.0536
Parking Lot	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
Racquet Club	211.866	2.2800e-003	0.0208	0.0175	1.2000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		24.9254	24.9254	4.8000e-004	4.6000e-004	25.0735
Single Family Housing	130.947	1.4100e-003	0.0121	5.1400e-003	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004		15.4055	15.4055	3.0000e-004	2.8000e-004	15.4970
Total		**0.0672**	**0.6095**	**0.5018**	**3.6700e-003**		**0.0465**	**0.0465**		**0.0465**	**0.0465**		**733.3213**	**733.3213**	**0.0141**	**0.0134**	**737.6791**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Condo/Townhouse	0.135661	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003		15.9601	15.9601	3.1000e-004	2.9000e-004	16.0550
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
Hotel	5.75476	0.0621	0.5642	0.4739	3.3900e-003		0.0429	0.0429		0.0429	0.0429		677.0303	677.0303	0.0130	0.0124	681.0536
Parking Lot	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
Racquet Club	0.211866	2.2800e-003	0.0208	0.0175	1.2000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		24.9254	24.9254	4.8000e-004	4.6000e-004	25.0735
Single Family Housing	0.130947	1.4100e-003	0.0121	5.1400e-003	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004		15.4055	15.4055	3.0000e-004	2.8000e-004	15.4970
Total		**0.0672**	**0.6095**	**0.5018**	**3.6700e-003**		**0.0465**	**0.0465**		**0.0465**	**0.0465**		**733.3213**	**733.3213**	**0.0141**	**0.0134**	**737.6791**

6.0 Area Detail

6.1 Mitigation Measures Area

Newport Beach Tennis Club Amendment - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	lb/day										lb/day					
Mitigated	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106
Unmitigated	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106

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	lb/day										lb/day					
Architectural Coating	0.2060					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	7.7600e-003	0.0664	0.0282	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	84.7059	84.7059	1.6200e-003	1.5500e-003	85.2093
Landscaping	0.0139	4.9000e-003	0.4293	2.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		0.7812	0.7812	8.1000e-004		0.8014
Total	**1.9540**	**0.0713**	**0.4575**	**4.4000e-004**		**7.7100e-003**	**7.7100e-003**		**7.7100e-003**	**7.7100e-003**	**0.0000**	**85.4871**	**85.4871**	**2.4300e-003**	**1.5500e-003**	**86.0106**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Architectural Coating	0.2060					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	7.7600e-003	0.0664	0.0282	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	84.7059	84.7059	1.6200e-003	1.5500e-003	85.2093
Landscaping	0.0139	4.9000e-003	0.4293	2.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		0.7812	0.7812	8.1000e-004		0.8014
Total	**1.9540**	**0.0713**	**0.4575**	**4.4000e-004**		**7.7100e-003**	**7.7100e-003**		**7.7100e-003**	**7.7100e-003**	**0.0000**	**85.4871**	**85.4871**	**2.4300e-003**	**1.5500e-003**	**86.0106**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Newport Beach Tennis Club Amendment

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	64.00	Space	1.00	25,600.00	0
Hotel	41.00	Room	2.50	61,870.00	0
Racquet Club	3.73	1000sqft	0.40	3,725.00	0
Condo/Townhouse	3.00	Dwelling Unit	0.60	15,035.00	9
Single Family Housing	2.00	Dwelling Unit	0.50	5,618.00	6
Enclosed Parking with Elevator	67.00	Space	0.60	26,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2032
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 41 room 61,870 SF Hotel, 3,725 SF Raquet Club, 2 SFH 5,618 SF, 3 Condos 15,035 SF and 64 spaces surface parking and 67 spaces enclosed

Construction Phase - Construction Phases and Schedule provided by applicant

Off-road Equipment - Phase 1 - Temporary Structures - 2 Tractors-Loaders-Backhoes and 1 Off-Highway Truck

Off-road Equipment - Phase 2 - Demo - 1 Excavator, 1 Crusher, 2 Tractors-Loaders-Backhoes

Off-road Equipment - Phase 3 Grading - 1 Excavator, 1 Grader, 1 Dozer (Crawler Tractor), 1 Rubber-Tired Dozer, 1 Scraper, 2 Tractors-Loaders-Backhoes

Off-road Equipment - Phases 4&5 Painting - 1 Air Compressor

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Phases 4&5 Building Construction - 2 Cranes, 2 Forklifts, 1 Welder

Off-road Equipment - Phases 4&5 Paving - 1 Grader, 1 Paver, 1 Paving Equipment, 1 Roller, 2 Tractors-Loaders-Backhoes

Trips and VMT - In order to account for water truck emissions, 6 vendor trucks added to Demolition and Grading Phases

Demolition - 300 tons of Building Material and 7225 tons of Asphalt-Concrete to be hauled offsite (7,525 tons total)

Grading -

Vehicle Trips - Daily Trip Rates from 1-18-23 Traffic Memo

Woodstoves - No Woodstoves or Fireplaces in Homes. Up to 4 natural gas fireplaces-firepits in common areas

Construction Off-road Equipment Mitigation - Water Exposed Area 3x per day selected to account for SCAQMD Rule 403 Minimum requirements

Mobile Land Use Mitigation - 250 feet (0.05 mile) from OCTA Newport Center-Civic Center Bus Stop

Water Mitigation - Install low-flow fixtures and use water-efficient irrigation selected to account for Title 24 Part 11 min requirements

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	3.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	230.00	400.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	PhaseEndDate	2/12/2031	1/6/2031
tblConstructionPhase	PhaseEndDate	1/29/2031	2/3/2031
tblConstructionPhase	PhaseEndDate	3/12/2031	3/31/2031
tblConstructionPhase	PhaseEndDate	1/28/2032	10/13/2032
tblConstructionPhase	PhaseEndDate	2/25/2032	10/13/2032
tblConstructionPhase	PhaseEndDate	3/24/2032	10/13/2032
tblConstructionPhase	PhaseStartDate	1/30/2031	1/2/2031
tblConstructionPhase	PhaseStartDate	1/2/2031	1/7/2031
tblConstructionPhase	PhaseStartDate	2/13/2031	2/4/2031
tblConstructionPhase	PhaseStartDate	3/13/2031	4/3/2031
tblConstructionPhase	PhaseStartDate	1/29/2032	8/12/2032
tblConstructionPhase	PhaseStartDate	2/26/2032	8/12/2032

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFireplaces	NumberGas	2.55	4.00
tblFireplaces	NumberGas	1.70	0.00
tblFireplaces	NumberNoFireplace	0.30	0.00
tblFireplaces	NumberNoFireplace	0.20	2.00
tblFireplaces	NumberWood	0.15	0.00
tblFireplaces	NumberWood	0.10	0.00
tblLandUse	LandUseSquareFeet	59,532.00	61,870.00
tblLandUse	LandUseSquareFeet	3,730.00	3,725.00
tblLandUse	LandUseSquareFeet	3,000.00	15,035.00
tblLandUse	LandUseSquareFeet	3,600.00	5,618.00
tblLandUse	LotAcreage	0.58	1.00
tblLandUse	LotAcreage	1.37	2.50
tblLandUse	LotAcreage	0.09	0.40
tblLandUse	LotAcreage	0.19	0.60
tblLandUse	LotAcreage	0.65	0.50
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	8.14	7.33
tblVehicleTrips	ST_TR	8.19	8.00
tblVehicleTrips	ST_TR	21.35	133.96
tblVehicleTrips	ST_TR	9.54	9.50
tblVehicleTrips	SU_TR	6.28	7.33
tblVehicleTrips	SU_TR	5.95	8.00
tblVehicleTrips	SU_TR	17.40	133.96
tblVehicleTrips	SU_TR	8.55	9.50
tblVehicleTrips	WD_TR	7.32	7.33
tblVehicleTrips	WD_TR	8.36	8.00
tblVehicleTrips	WD_TR	14.03	133.96
tblVehicleTrips	WD_TR	9.44	9.50
tblWoodstoves	NumberCatalytic	0.15	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.15	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00

2.0 Emissions Summary

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2031	2.7067	11.9713	18.1385	0.0598	8.9129	0.4039	9.3168	3.6609	0.4038	4.0647	0.0000	5,990.6729	5,990.6729	0.3477	0.3471	6,002.1131
2032	19.2607	12.0935	24.3954	0.0616	0.9886	0.3483	1.3369	0.2651	0.3480	0.6130	0.0000	5,930.1927	5,930.1927	0.2404	0.0608	5,954.3308
Maximum	**19.2607**	**12.0935**	**24.3954**	**0.0616**	**8.9129**	**0.4039**	**9.3168**	**3.6609**	**0.4038**	**4.0647**	**0.0000**	**5,990.6729**	**5,990.6729**	**0.3477**	**0.3471**	**6,002.1131**

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	lb/day										lb/day					
2031	2.7067	11.9713	18.1385	0.0598	3.9388	0.4039	4.0750	1.4670	0.4038	1.8709	0.0000	5,990.6729	5,990.6729	0.3477	0.3471	6,002.1131
2032	19.2607	12.0935	24.3954	0.0616	0.9886	0.3483	1.3369	0.2651	0.3480	0.6130	0.0000	5,930.1927	5,930.1927	0.2404	0.0608	5,954.3307
Maximum	**19.2607**	**12.0935**	**24.3954**	**0.0616**	**3.9388**	**0.4039**	**4.0750**	**1.4670**	**0.4038**	**1.8709**	**0.0000**	**5,990.6729**	**5,990.6729**	**0.3477**	**0.3471**	**6,002.1131**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	50.24	0.00	49.20	55.88	0.00	46.90	0.00	0.00	0.00	0.00	0.00	0.00

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Area	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106
Energy	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791
Mobile	1.5495	1.3810	14.1040	0.0297	4.0914	0.0181	4.1095	1.0906	0.0168	1.1074		3,230.8656	3,230.8656	0.2119	0.1424	3,278.6095
Total	**3.5707**	**2.0618**	**15.0633**	**0.0338**	**4.0914**	**0.0722**	**4.1637**	**1.0906**	**0.0710**	**1.1615**	**0.0000**	**4,049.6740**	**4,049.6740**	**0.2284**	**0.1574**	**4,102.2992**

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	lb/day										lb/day					
Area	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106
Energy	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791
Mobile	1.3655	1.1377	11.5412	0.0227	3.0908	0.0142	3.1050	0.8239	0.0132	0.8371		2,465.4731	2,465.4731	0.1757	0.1168	2,504.6783
Total	**3.3867**	**1.8185**	**12.5005**	**0.0268**	**3.0908**	**0.0684**	**3.1592**	**0.8239**	**0.0674**	**0.8912**	**0.0000**	**3,284.2815**	**3,284.2815**	**0.1922**	**0.1318**	**3,328.3680**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	5.15	11.80	17.01	20.82	24.46	5.34	24.12	24.46	5.07	23.27	0.00	18.90	18.90	15.87	16.27	18.87

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 2 - Demolition	Demolition	1/7/2031	2/3/2031	5	20	
2	Phase 1 - Temporary Structures	Site Preparation	1/2/2031	1/6/2031	5	3	
3	Phase 3 - Grading	Grading	2/4/2031	3/31/2031	5	40	
4	Phases 4 & 5 - Building Construction	Building Construction	4/3/2031	10/13/2032	5	400	
5	Phases 4 & 5 - Paving	Paving	8/12/2032	10/13/2032	5	45	
6	Phases 4 & 5 - Architectural Coating	Architectural Coating	8/12/2032	10/13/2032	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 100

Acres of Paving: 1.6

Residential Indoor: 41,822; Residential Outdoor: 13,941; Non-Residential Indoor: 98,393; Non-Residential Outdoor: 32,798; Striped Parking Area: 3,144 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 3 - Grading	Rubber Tired Dozers	1	8.00	247	0.40
Phase 1 - Temporary Structures	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phases 4 & 5 - Paving	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Scrapers	1	8.00	367	0.48

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase 3 - Grading	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Graders	1	8.00	187	0.41
Phases 4 & 5 - Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 - Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Phase 3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phases 4 & 5 - Building Construction	Cranes	2	8.00	231	0.29
Phases 4 & 5 - Building Construction	Forklifts	2	8.00	89	0.20
Phases 4 & 5 - Building Construction	Welders	1	8.00	46	0.45
Phase 1 - Temporary Structures	Off-Highway Trucks	1	8.00	402	0.38
Phases 4 & 5 - Paving	Pavers	1	8.00	130	0.42
Phases 4 & 5 - Paving	Paving Equipment	1	8.00	132	0.36
Phases 4 & 5 - Paving	Rollers	1	8.00	80	0.38
Phase 3 - Grading	Crawler Tractors	1	8.00	212	0.43
Phases 4 & 5 - Architectural Coating	Air Compressors	1	6.00	78	0.48
Phase 2 - Demolition	Tractors/Loaders/Backhoes	2	8.00	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
Phase 1 - Temporary Structures	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 - Demolition	4	10.00	6.00	744.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Grading	7	18.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phases 4 & 5 - Building Construction	5	52.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phases 4 & 5 - Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phases 4 & 5 - Architectural Coating	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase 2 - Demolition - 2031

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	lb/day										lb/day					
Fugitive Dust					8.0514	0.0000	8.0514	1.2191	0.0000	1.2191			0.0000			0.0000
Off-Road	0.8866	4.6008	12.5265	0.0209		0.1066	0.1066		0.1066	0.1066		1,982.8556	1,982.8556	0.0784		1,984.8167
Total	**0.8866**	**4.6008**	**12.5265**	**0.0209**	**8.0514**	**0.1066**	**8.1580**	**1.2191**	**0.1066**	**1.3257**		**1,982.8556**	**1,982.8556**	**0.0784**		**1,984.8167**

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	lb/day										lb/day					
Hauling	0.0653	4.1766	1.7333	0.0177	0.6486	0.0281	0.6767	0.1776	0.0269	0.2045		2,050.5189	2,050.5189	0.2606	0.3305	2,155.5340
Vendor	5.2300e-003	0.2088	0.0880	9.1000e-004	0.0384	1.1000e-003	0.0395	0.0110	1.0500e-003	0.0121		101.6369	101.6369	7.5500e-003	0.0150	106.3042
Worker	0.0204	0.0104	0.1955	7.2000e-004	0.1118	3.6000e-004	0.1121	0.0296	3.3000e-004	0.0300		78.5058	78.5058	1.1100e-003	1.5200e-003	78.9867
Total	**0.0909**	**4.3958**	**2.0167**	**0.0193**	**0.7988**	**0.0296**	**0.8283**	**0.2183**	**0.0283**	**0.2466**		**2,230.6617**	**2,230.6617**	**0.2693**	**0.3471**	**2,340.8249**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase 2 - Demolition - 2031

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	lb/day										lb/day					
Fugitive Dust					3.1400	0.0000	3.1400	0.4754	0.0000	0.4754			0.0000			0.0000
Off-Road	0.8866	4.6008	12.5265	0.0209		0.1066	0.1066		0.1066	0.1066	0.0000	1,982.8556	1,982.8556	0.0784		1,984.8167
Total	**0.8866**	**4.6008**	**12.5265**	**0.0209**	**3.1400**	**0.1066**	**3.2467**	**0.4754**	**0.1066**	**0.5821**	**0.0000**	**1,982.8556**	**1,982.8556**	**0.0784**		**1,984.8167**

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	lb/day										lb/day					
Hauling	0.0653	4.1766	1.7333	0.0177	0.6486	0.0281	0.6767	0.1776	0.0269	0.2045		2,050.5189	2,050.5189	0.2606	0.3305	2,155.5340
Vendor	5.2300e-003	0.2088	0.0880	9.1000e-004	0.0384	1.1000e-003	0.0395	0.0110	1.0500e-003	0.0121		101.6369	101.6369	7.5500e-003	0.0150	106.3042
Worker	0.0204	0.0104	0.1955	7.2000e-004	0.1118	3.6000e-004	0.1121	0.0296	3.3000e-004	0.0300		78.5058	78.5058	1.1100e-003	1.5200e-003	78.9867
Total	**0.0909**	**4.3958**	**2.0167**	**0.0193**	**0.7988**	**0.0296**	**0.8283**	**0.2183**	**0.0283**	**0.2466**		**2,230.6617**	**2,230.6617**	**0.2693**	**0.3471**	**2,340.8249**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase 1 - Temporary Structures - 2031

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.9292	3.2961	7.6798	0.0211		0.0840	0.0840		0.0840	0.0840		2,258.2377	2,258.2377	0.0818		2,260.2835
Total	**0.9292**	**3.2961**	**7.6798**	**0.0211**	**0.0000**	**0.0840**	**0.0840**	**0.0000**	**0.0840**	**0.0840**		**2,258.2377**	**2,258.2377**	**0.0818**		**2,260.2835**

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	lb/day										lb/day					
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
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
Worker	0.0163	8.3500e-003	0.1564	5.8000e-004	0.0894	2.8000e-004	0.0897	0.0237	2.6000e-004	0.0240		62.8047	62.8047	8.9000e-004	1.2200e-003	63.1894
Total	**0.0163**	**8.3500e-003**	**0.1564**	**5.8000e-004**	**0.0894**	**2.8000e-004**	**0.0897**	**0.0237**	**2.6000e-004**	**0.0240**		**62.8047**	**62.8047**	**8.9000e-004**	**1.2200e-003**	**63.1894**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase 1 - Temporary Structures - 2031

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	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.9292	3.2961	7.6798	0.0211		0.0840	0.0840		0.0840	0.0840	0.0000	2,258.2377	2,258.2377	0.0818		2,260.2835
Total	**0.9292**	**3.2961**	**7.6798**	**0.0211**	**0.0000**	**0.0840**	**0.0840**	**0.0000**	**0.0840**	**0.0840**	**0.0000**	**2,258.2377**	**2,258.2377**	**0.0818**		**2,260.2835**

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	lb/day										lb/day					
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
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
Worker	0.0163	8.3500e-003	0.1564	5.8000e-004	0.0894	2.8000e-004	0.0897	0.0237	2.6000e-004	0.0240		62.8047	62.8047	8.9000e-004	1.2200e-003	63.1894
Total	**0.0163**	**8.3500e-003**	**0.1564**	**5.8000e-004**	**0.0894**	**2.8000e-004**	**0.0897**	**0.0237**	**2.6000e-004**	**0.0240**		**62.8047**	**62.8047**	**8.9000e-004**	**1.2200e-003**	**63.1894**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase 3 - Grading - 2031

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	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.6648	11.7438	17.6987	0.0576		0.4022	0.4022		0.4022	0.4022		5,747.7254	5,747.7254	0.2363		5,753.6328
Total	**2.6648**	**11.7438**	**17.6987**	**0.0576**	**8.6733**	**0.4022**	**9.0755**	**3.5965**	**0.4022**	**3.9987**		**5,747.7254**	**5,747.7254**	**0.2363**		**5,753.6328**

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	lb/day										lb/day					
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
Vendor	5.2300e-003	0.2088	0.0880	9.1000e-004	0.0384	1.1000e-003	0.0395	0.0110	1.0500e-003	0.0121		101.6369	101.6369	7.5500e-003	0.0150	106.3042
Worker	0.0366	0.0188	0.3518	1.3000e-003	0.2012	6.4000e-004	0.2018	0.0534	5.9000e-004	0.0540		141.3105	141.3105	2.0000e-003	2.7400e-003	142.1761
Total	**0.0419**	**0.2275**	**0.4398**	**2.2100e-003**	**0.2396**	**1.7400e-003**	**0.2413**	**0.0644**	**1.6400e-003**	**0.0660**		**242.9474**	**242.9474**	**9.5500e-003**	**0.0178**	**248.4803**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase 3 - Grading - 2031

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	lb/day										lb/day					
Fugitive Dust					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	2.6648	11.7438	17.6987	0.0576		0.4022	0.4022		0.4022	0.4022	0.0000	5,747.7254	5,747.7254	0.2363		5,753.6328
Total	**2.6648**	**11.7438**	**17.6987**	**0.0576**	**3.3826**	**0.4022**	**3.7848**	**1.4026**	**0.4022**	**1.8048**	**0.0000**	**5,747.7254**	**5,747.7254**	**0.2363**		**5,753.6328**

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	lb/day										lb/day					
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
Vendor	5.2300e-003	0.2088	0.0880	9.1000e-004	0.0384	1.1000e-003	0.0395	0.0110	1.0500e-003	0.0121		101.6369	101.6369	7.5500e-003	0.0150	106.3042
Worker	0.0366	0.0188	0.3518	1.3000e-003	0.2012	6.4000e-004	0.2018	0.0534	5.9000e-004	0.0540		141.3105	141.3105	2.0000e-003	2.7400e-003	142.1761
Total	**0.0419**	**0.2275**	**0.4398**	**2.2100e-003**	**0.2396**	**1.7400e-003**	**0.2413**	**0.0644**	**1.6400e-003**	**0.0660**		**242.9474**	**242.9474**	**9.5500e-003**	**0.0178**	**248.4803**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2031

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863		1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**		**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0174	0.6959	0.2932	3.0500e-003	0.1279	3.6600e-003	0.1315	0.0368	3.5000e-003	0.0403		338.7898	338.7898	0.0252	0.0501	354.3473
Worker	0.1058	0.0543	1.0164	3.7500e-003	0.5812	1.8500e-003	0.5831	0.1542	1.7000e-003	0.1559		408.2304	408.2304	5.7700e-003	7.9100e-003	410.7310
Total	**0.1233**	**0.7501**	**1.3096**	**6.8000e-003**	**0.7091**	**5.5100e-003**	**0.7146**	**0.1910**	**5.2000e-003**	**0.1962**		**747.0201**	**747.0201**	**0.0310**	**0.0580**	**765.0783**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2031

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863	0.0000	1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**	**0.0000**	**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0174	0.6959	0.2932	3.0500e-003	0.1279	3.6600e-003	0.1315	0.0368	3.5000e-003	0.0403		338.7898	338.7898	0.0252	0.0501	354.3473
Worker	0.1058	0.0543	1.0164	3.7500e-003	0.5812	1.8500e-003	0.5831	0.1542	1.7000e-003	0.1559		408.2304	408.2304	5.7700e-003	7.9100e-003	410.7310
Total	**0.1233**	**0.7501**	**1.3096**	**6.8000e-003**	**0.7091**	**5.5100e-003**	**0.7146**	**0.1910**	**5.2000e-003**	**0.1962**		**747.0201**	**747.0201**	**0.0310**	**0.0580**	**765.0783**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2032

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863		1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**		**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0173	0.6925	0.2937	2.9900e-003	0.1279	3.6400e-003	0.1315	0.0368	3.4800e-003	0.0403		333.1415	333.1415	0.0253	0.0494	348.4951
Worker	0.1006	0.0515	0.9881	3.6900e-003	0.5812	1.7400e-003	0.5830	0.1542	1.6000e-003	0.1558		403.5610	403.5610	5.4000e-003	7.7200e-003	405.9970
Total	**0.1178**	**0.7440**	**1.2817**	**6.6800e-003**	**0.7091**	**5.3800e-003**	**0.7145**	**0.1910**	**5.0800e-003**	**0.1960**		**736.7025**	**736.7025**	**0.0307**	**0.0571**	**754.4921**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phases 4 & 5 - Building Construction - 2032

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	lb/day										lb/day					
Off-Road	0.8709	3.9388	6.6973	0.0205		0.0863	0.0863		0.0863	0.0863	0.0000	1,907.1914	1,907.1914	0.0776		1,909.1304
Total	**0.8709**	**3.9388**	**6.6973**	**0.0205**		**0.0863**	**0.0863**		**0.0863**	**0.0863**	**0.0000**	**1,907.1914**	**1,907.1914**	**0.0776**		**1,909.1304**

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	lb/day										lb/day					
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
Vendor	0.0173	0.6925	0.2937	2.9900e-003	0.1279	3.6400e-003	0.1315	0.0368	3.4800e-003	0.0403		333.1415	333.1415	0.0253	0.0494	348.4951
Worker	0.1006	0.0515	0.9881	3.6900e-003	0.5812	1.7400e-003	0.5830	0.1542	1.6000e-003	0.1558		403.5610	403.5610	5.4000e-003	7.7200e-003	405.9970
Total	**0.1178**	**0.7440**	**1.2817**	**6.6800e-003**	**0.7091**	**5.3800e-003**	**0.7145**	**0.1910**	**5.0800e-003**	**0.1960**		**736.7025**	**736.7025**	**0.0307**	**0.0571**	**754.4921**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phases 4 & 5 - Paving - 2032

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	lb/day										lb/day					
Off-Road	1.3264	6.5297	14.1436	0.0297		0.2355	0.2355		0.2355	0.2355		2,810.8311	2,810.8311	0.1181		2,813.7846
Paving	0.0582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3846**	**6.5297**	**14.1436**	**0.0297**		**0.2355**	**0.2355**		**0.2355**	**0.2355**		**2,810.8311**	**2,810.8311**	**0.1181**		**2,813.7846**

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	lb/day										lb/day					
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
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
Worker	0.0290	0.0149	0.2850	1.0600e-003	0.1677	5.0000e-004	0.1682	0.0445	4.6000e-004	0.0449		116.4118	116.4118	1.5600e-003	2.2300e-003	117.1145
Total	**0.0290**	**0.0149**	**0.2850**	**1.0600e-003**	**0.1677**	**5.0000e-004**	**0.1682**	**0.0445**	**4.6000e-004**	**0.0449**		**116.4118**	**116.4118**	**1.5600e-003**	**2.2300e-003**	**117.1145**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phases 4 & 5 - Paving - 2032

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	lb/day										lb/day					
Off-Road	1.3264	6.5297	14.1436	0.0297		0.2355	0.2355		0.2355	0.2355	0.0000	2,810.8311	2,810.8311	0.1181		2,813.7846
Paving	0.0582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3846**	**6.5297**	**14.1436**	**0.0297**		**0.2355**	**0.2355**		**0.2355**	**0.2355**	**0.0000**	**2,810.8311**	**2,810.8311**	**0.1181**		**2,813.7846**

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	lb/day										lb/day					
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
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
Worker	0.0290	0.0149	0.2850	1.0600e-003	0.1677	5.0000e-004	0.1682	0.0445	4.6000e-004	0.0449		116.4118	116.4118	1.5600e-003	2.2300e-003	117.1145
Total	**0.0290**	**0.0149**	**0.2850**	**1.0600e-003**	**0.1677**	**5.0000e-004**	**0.1682**	**0.0445**	**4.6000e-004**	**0.0449**		**116.4118**	**116.4118**	**1.5600e-003**	**2.2300e-003**	**117.1145**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phases 4 & 5 - Architectural Coating - 2032

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	lb/day										lb/day					
Archit. Coating	16.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203		281.4481	281.4481	0.0114		281.7328
Total	**16.8391**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**		**281.4481**	**281.4481**	**0.0114**		**281.7328**

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	lb/day										lb/day					
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
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
Worker	0.0193	9.9000e-003	0.1900	7.1000e-004	0.1118	3.3000e-004	0.1121	0.0296	3.1000e-004	0.0300		77.6079	77.6079	1.0400e-003	1.4800e-003	78.0764
Total	**0.0193**	**9.9000e-003**	**0.1900**	**7.1000e-004**	**0.1118**	**3.3000e-004**	**0.1121**	**0.0296**	**3.1000e-004**	**0.0300**		**77.6079**	**77.6079**	**1.0400e-003**	**1.4800e-003**	**78.0764**

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phases 4 & 5 - Architectural Coating - 2032

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	lb/day										lb/day					
Archit. Coating	16.7083					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1308	0.8563	1.7977	2.9700e-003		0.0203	0.0203		0.0203	0.0203	0.0000	281.4481	281.4481	0.0114		281.7328
Total	**16.8391**	**0.8563**	**1.7977**	**2.9700e-003**		**0.0203**	**0.0203**		**0.0203**	**0.0203**	**0.0000**	**281.4481**	**281.4481**	**0.0114**		**281.7328**

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	lb/day										lb/day					
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
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
Worker	0.0193	9.9000e-003	0.1900	7.1000e-004	0.1118	3.3000e-004	0.1121	0.0296	3.1000e-004	0.0300		77.6079	77.6079	1.0400e-003	1.4800e-003	78.0764
Total	**0.0193**	**9.9000e-003**	**0.1900**	**7.1000e-004**	**0.1118**	**3.3000e-004**	**0.1121**	**0.0296**	**3.1000e-004**	**0.0300**		**77.6079**	**77.6079**	**1.0400e-003**	**1.4800e-003**	**78.0764**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

Improve Pedestrian Network

	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	lb/day										lb/day					
Mitigated	1.3655	1.1377	11.5412	0.0227	3.0908	0.0142	3.1050	0.8239	0.0132	0.8371		2,465.4731	2,465.4731	0.1757	0.1168	2,504.6783
Unmitigated	1.5495	1.3810	14.1040	0.0297	4.0914	0.0181	4.1095	1.0906	0.0168	1.1074		3,230.8656	3,230.8656	0.2119	0.1424	3,278.6095

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	21.99	21.99	21.99	75,143	56,766
Hotel	328.00	328.00	328.00	782,664	591,258
Parking Lot	0.00	0.00	0.00		
Racquet Club	499.67	499.67	499.67	1,018,950	769,758
Single Family Housing	19.00	19.00	19.00	64,926	49,048
Enclosed Parking with Elevator	0.00	0.00	0.00		
Total	868.66	868.66	868.66	1,941,683	1,466,831

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Racquet Club	16.60	8.40	6.90	11.50	69.50	19.00	52	39	9
Single Family Housing	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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Hotel	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Parking Lot	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Racquet Club	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Single Family Housing	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453
Enclosed Parking with Elevator	0.552051	0.063385	0.181723	0.120523	0.024158	0.007095	0.015326	0.004799	0.000679	0.000357	0.025766	0.000685	0.003453

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	lb/day										lb/day					
NaturalGas Mitigated	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791
NaturalGas Unmitigated	0.0672	0.6095	0.5018	3.6700e-003		0.0464	0.0464		0.0464	0.0464		733.3213	733.3213	0.0141	0.0134	737.6791

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Condo/Townhouse	135.661	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003		15.9601	15.9601	3.1000e-004	2.9000e-004	16.0550
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
Hotel	5754.76	0.0621	0.5642	0.4739	3.3900e-003		0.0429	0.0429		0.0429	0.0429		677.0303	677.0303	0.0130	0.0124	681.0536
Parking Lot	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
Racquet Club	211.866	2.2800e-003	0.0208	0.0175	1.2000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		24.9254	24.9254	4.8000e-004	4.6000e-004	25.0735
Single Family Housing	130.947	1.4100e-003	0.0121	5.1400e-003	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004		15.4055	15.4055	3.0000e-004	2.8000e-004	15.4970
Total		**0.0672**	**0.6095**	**0.5018**	**3.6700e-003**		**0.0465**	**0.0465**		**0.0465**	**0.0465**		**733.3213**	**733.3213**	**0.0141**	**0.0134**	**737.6791**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Condo/Townhouse	0.135661	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003		15.9601	15.9601	3.1000e-004	2.9000e-004	16.0550
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
Hotel	5.75476	0.0621	0.5642	0.4739	3.3900e-003		0.0429	0.0429		0.0429	0.0429		677.0303	677.0303	0.0130	0.0124	681.0536
Parking Lot	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
Racquet Club	0.211866	2.2800e-003	0.0208	0.0175	1.2000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003		24.9254	24.9254	4.8000e-004	4.6000e-004	25.0735
Single Family Housing	0.130947	1.4100e-003	0.0121	5.1400e-003	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004		15.4055	15.4055	3.0000e-004	2.8000e-004	15.4970
Total		**0.0672**	**0.6095**	**0.5018**	**3.6700e-003**		**0.0465**	**0.0465**		**0.0465**	**0.0465**		**733.3213**	**733.3213**	**0.0141**	**0.0134**	**737.6791**

6.0 Area Detail

6.1 Mitigation Measures Area

Newport Beach Tennis Club Amendment - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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	lb/day										lb/day					
Mitigated	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106
Unmitigated	1.9540	0.0713	0.4575	4.5000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	85.4871	85.4871	2.4300e-003	1.5500e-003	86.0106

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	lb/day										lb/day					
Architectural Coating	0.2060					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	7.7600e-003	0.0664	0.0282	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	84.7059	84.7059	1.6200e-003	1.5500e-003	85.2093
Landscaping	0.0139	4.9000e-003	0.4293	2.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		0.7812	0.7812	8.1000e-004		0.8014
Total	**1.9540**	**0.0713**	**0.4575**	**4.4000e-004**		**7.7100e-003**	**7.7100e-003**		**7.7100e-003**	**7.7100e-003**	**0.0000**	**85.4871**	**85.4871**	**2.4300e-003**	**1.5500e-003**	**86.0106**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	lb/day										lb/day					
Architectural Coating	0.2060					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.7263					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	7.7600e-003	0.0664	0.0282	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	84.7059	84.7059	1.6200e-003	1.5500e-003	85.2093
Landscaping	0.0139	4.9000e-003	0.4293	2.0000e-005		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003		0.7812	0.7812	8.1000e-004		0.8014
Total	**1.9540**	**0.0713**	**0.4575**	**4.4000e-004**		**7.7100e-003**	**7.7100e-003**		**7.7100e-003**	**7.7100e-003**	**0.0000**	**85.4871**	**85.4871**	**2.4300e-003**	**1.5500e-003**	**86.0106**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B - Energy Calculations

Construction-Related Petroleum Fuels

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions utilized in the CalEEMod model run provided in Appendix A and the fuel usage calculations provided in the 2017 Off-road Diesel Emission Factors spreadsheet, prepared by CARB (https://ww3.arb.ca.gov/msei/ordiesel.htm). The Spreadsheet provides the following formula to calculate fuel usage from off-road equipment:

Fuel Used = Load Factor x Horsepower x Total Operational Hours x BSFC / Unit Conversion

Where:

Load Factor - Obtained from CalEEMod default values

Horsepower – Obtained from CalEEMod default values

Total Operational Hours – Calculated by multiplying CalEEMod default daily hours by the estimated number of working days for each phase of construction

BSFC – Brake Specific Fuel Consumption (pounds per horsepower-hour) – If less than 100 Horsepower = 0.408, if greater than 100 Horsepower = 0.367

Unit Conversion – Converts pounds to gallons = 7.109

The Following Table shows the off-road construction equipment fuel calculations based on the above formula, which shows that the off-road equipment utilized during construction of the proposed project would consume 129,568 gallons of diesel fuel.

Off-Road Construction Equipment Modeled in CalEEMod and Fuel Used

Equipment Type	Equipment Quantity	Horse-Power	Load Factor	Operating Hours Per Day	Total Operational Hours[1]	Fuel Used (gallons)
Phase 1 – Temporary Structures						
Off-Highway Truck	1	402	0.38	8	40	315
Tractors/Loaders/Backhoes	2	97	0.37	8	80	165
Phase 2 – Demolition						
Excavator	1	158	0.38	8	320	992
Power Screen Crusher	1	85	0.78	8	320	1,218
Tractors/Loaders/Backhoes	2	97	0.37	8	640	1,318
Phase 3 – Grading						
Dozer (Crawler Tractor)	1	212	0.43	8	3,200	15,060
Grader	1	187	0.41	8	3,200	12,666
Excavator	1	158	0.38	8	3,200	9,919
Scraper	1	367	0.48	8	3,200	29,101

Equipment Type	Equipment Quantity	Horse-Power	Load Factor	Operating Hours Per Day	Total Operational Hours[1]	Fuel Used (gallons)
Tractors/Loaders/Backhoes	2	97	0.37	8	6,400	13,183
Phases 4 & 5 – Building Construction						
Cranes	2	231	0.29	8	6,400	22,133
Forklifts	2	89	0.20	8	720	736
Paving Equipment	1	132	0.36	8	80	196
Rollers	1	80	0.38	7	70	122
Tractors/Loaders/Backhoes	1	97	0.37	8	80	165
Phases 4 & 5 – Paving						
Grader	1	187	0.41	8	360	1,425
Paver	1	130	0.42	8	360	1,015
Paving Equipment	1	132	0.36	8	360	883
Roller	1	80	0.38	8	360	628
Tractors/Loaders/Backhoes	1	97	0.37	8	720	1,483
Phases 4 & 5 - Architectural Coatings						
Air Compressor	1	78	0.48	6	270	580
Total Off-Road Equipment Fuel used during Construction of the Proposed Project (gallons)						**129,568**

Notes:

[1] Based on 5 days for Phase 1, 20 days for Phase 2 ,40 days for Phase 3, 400 days for Phases 4 & 5 Building Construction, 45 days for Phases 4 & 5 Paving, and 45 days for Phases 4 & 5 Architectural Coatings.

Source: CalEEMod Version 2020.4.0, CARB, 2018.

The on-road construction-related vehicle trips fuel usage was calculated through use of the default construction vehicle trip assumptions from the CalEEMod model run. The fleet average miles per gallon rates for year 2031 (start of construction) have been calculated through use of the EMFAC2017 model (https://www.arb.ca.gov/emfac/2017/) and the EMFAC2017 model printouts are attached. The worker trips were based on the entire fleet average miles per gallon rate for gasoline powered vehicles and the vendor trips were based on the Heavy-Heavy Duty Truck (HHDT), Medium Duty Vehicle (MDV), and Medium Heavy-Duty Vehicle (MHDV) fleet average miles per gallon rate for diesel-powered vehicles. The following Table shows the on-road construction vehicle trips modeled in CalEEMod and the fuel usage calculations, which shows that the on-road construction-related vehicle trips would consume 10,351 gallons of gasoline and 7,155 gallons of diesel fuel for the proposed Project.

On-Road Construction Vehicle Trips Modeled in CalEEMod and Fuel Used

Vehicle Trip Types / Fuel Type	Daily Trips	Trip Length (miles)	Total per Day (miles)	Total per Phase (miles)	Fleet Average Miles per Gallon	Fuel Used (gallons)
Phase 1 – Temporary Structures						
Worker (Gasoline)	8	14.7	118	588	32.5	18
Phase 2 – Demolition						
Worker (Gasoline)	10	14.7	147	2,940	32.5	90
Vendor (Diesel	6	6.9	41	828	10.1	82
Haul (Diesel)	37	20	744	14,880	10.1	1,467
Phase 3 – Grading						
Worker (Gasoline)	18	14.7	265	10.584	32.5	326
Vendor (Diesel)	6	6.9	41	1,656	10.1	163
Phases 4 & 5 – Building Construction						
Worker (Gasoline)	52	14.7	764	305,760	32.5	9,408
Vendor (Diesel)	20	6.9	138	55,200	10.1	5,443
Phases 4 & 5 – Paving						
Worker (Gasoline)	15	14.7	221	9,923	32.5	305
Phases 4 & 5 - Architectural Coatings						
Worker (Gasoline)	10	14.7	147	6,615	32.5	204
Total Gasoline Fuel Used from On-Road Construction Vehicles (gallons)						**10,351**
Total Diesel Fuel Used from On-Road Construction Vehicles (gallons)						**7,155**

Notes:
[1] Based on 5 days for Phase 1, 20 days for Phase 2 ,40 days for Phase 3, 400 days for Phases 4 & 5 Building Construction, 45 days for Phases 4 & 5 Paving, and 45 days for Phases 4 & 5 Architectural Coatings.
Source: CalEEMod Version 2020.4.0, CARB, 2018.

Operations-Related Petroleum Fuels

The on-road operations-related vehicle trips fuel usage was calculated through use of the total annual vehicle miles traveled assumptions from the CalEEMod model run provided in Appendix A, which found that operation of the proposed Project would generate 1,466,831 vehicle miles traveled per year. The calculated total operational miles were then divided by the South Coast Air Basin average rates of 32.5 miles per gallon, which was calculated through use of the EMFAC2017 model and based on year 2031. The EMFAC2017 model printouts are attached to this Appendix. Based on the above calculation methodology, the operation of the proposed Project would consume 45,133 gallons of gasoline per year.

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air Basin
Region: SOUTH COAST
Calendar Year: 2031
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
SOUTH COA	2031	HHDT	Aggregated	Aggregated	GAS	82.3	10630	1646.5	2.1
SOUTH COA	2031	LDA	Aggregated	Aggregated	GAS	7094998.0	248591543	33415915.3	6531.6
SOUTH COA	2031	LDT1	Aggregated	Aggregated	GAS	888749.1	29825373	4112369.4	926.1
SOUTH COA	2031	LDT2	Aggregated	Aggregated	GAS	2533959.4	86727453	11850833.5	2714.5
SOUTH COA	2031	LHDT1	Aggregated	Aggregated	GAS	170641.6	5774852	2542304.8	485.3
SOUTH COA	2031	LHDT2	Aggregated	Aggregated	GAS	30278.3	984851	451102.3	95.5
SOUTH COA	2031	MCY	Aggregated	Aggregated	GAS	359374.5	2177054	718749.0	60.7
SOUTH COA	2031	MDV	Aggregated	Aggregated	GAS	1648368.0	53609134	7642856.0	2067.1
SOUTH COA	2031	MH	Aggregated	Aggregated	GAS	32269.3	307602	3228.2	52.1
SOUTH COA	2031	MHDT	Aggregated	Aggregated	GAS	26300.0	1279837	526210.1	220.2
SOUTH COA	2031	OBUS	Aggregated	Aggregated	GAS	5900.7	216739	118062.2	37.3
SOUTH COA	2031	SBUS	Aggregated	Aggregated	GAS	3888.9	142417	15555.7	14.4
SOUTH COA	2031	UBUS	Aggregated	Aggregated	GAS	1003.5	93996	4014.2	16.1

vehicle miles per day (All Categories)	429741480	13,223	1,000 gall per day
		13,222,813	gallons per day
Fleet Avg Miles per gallon	32.5		

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air Basin
Region: SOUTH COAST
Calendar Year: 2031
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
SOUTH CO	2031	HHDT	Aggregated	Aggregatec	DSL	109278.5	13813007	1138201	1660.0
SOUTH CO	2031	LDA	Aggregated	Aggregatec	DSL	80158.6	2925090	383389	49.7
SOUTH CO	2031	LDT1	Aggregated	Aggregatec	DSL	144.0	4477	630	0.2
SOUTH CO	2031	LDT2	Aggregated	Aggregatec	DSL	23409.3	837491	112063	19.3
SOUTH CO	2031	LHDT1	Aggregated	Aggregatec	DSL	165076.3	5855204	2076452	237.7
SOUTH CO	2031	LHDT2	Aggregated	Aggregatec	DSL	67023.8	2288462	843075	103.2
SOUTH CO	2031	MDV	Aggregated	Aggregatec	DSL	52054.8	1781479	248338	53.3
SOUTH CO	2031	MH	Aggregated	Aggregatec	DSL	14939.4	130586	1494	11.1
SOUTH CO	2031	MHDT	Aggregated	Aggregatec	DSL	153758.4	8939484	1586264	705.6
SOUTH CO	2031	OBUS	Aggregated	Aggregatec	DSL	5534.4	375972	53851	38.0
SOUTH CO	2031	SBUS	Aggregated	Aggregatec	DSL	6809.8	216568	78584	24.9
SOUTH CO	2031	UBUS	Aggregated	Aggregatec	DSL	0	0	0	0

Diesel Truck (HHDT, MDV, MHDT) vehicle miles per day	24,533,970	2,419	1,000 gall per day
		2418992	gallons per day
Diesel Truck Fleet Avg Miles per gallon	10.1		

APPENDIX B – Hydrology Report

HYDROLOGY STUDY

FOR

Newport Beach Country Club, Tennis Club, Spa, Villas & Bungalows
5, 6, 7, 8, 9, 10, & 11 Clubhouse Drive (Formerly 1602 E. Coast Highway)
Newport Beach, CA 92660

Prepared for:

Gold Realty Fund
One Upper Newport Plaza
Newport Beach, CA 92660
(760) 251-2025

Prepared By:

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PREPARED UNDER THE SUPERVISION OF:

_____

Roy L. Roberson C44160 Date

Prepared: September, 2018
Revised: 30 November, 2021

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Purpose

This study will estimate the pre- and post-development peak flow rate for a 25-year and 100-year storm event at the project site.

Project description

The project site is located at 11 Clubhouse Drive, Newport Beach, California. It is generally bordered by Newport Beach Country Club Golf Course to the north and west, Granville Drive and Newport Center Drive to the east, and Corporate Plaza West to the east and south.

The area of improvement is over the existing Tennis Club. The existing tennis club and tennis courts will be improved and/or replaced with a new tennis clubhouse, bungalows and semi-custom homes. The total area of improvement is approximately 6.97 acres.

Criteria and Methodology

The Orange County Hydrology Manual was used as a guide to estimate the pre- and post-development peak flow rate. Hydrology calculations were performed using the AES Hydrology Software.

Soil Classification

Soil classification for the site is Soil Type D per the Orange County Hydrology Manual.

Project Site Drainage

Existing site drainage

Currently, the project site drainage is split into two main tributary areas, noted as Area "A" and Area "B". Area "A" is the largest area of the site, consisting of about 5.68 acres, and is comprised of the tennis courts, tennis club house, and parking lot. The drainage flows southerly from the tennis courts, then through the parking lot, before being intercepted by an 18" inlet at the southwest corner of the project site. A 12" pvc pipe connects this inlet to a 69" storm drain system.

Area "B" is on the westerly portion of the property, consisting of 1.29 acres. Area "B" is comprised of the remaining tennis courts and entry to the parking lot. The drainage flows southerly from the tennis courts, and onto the curb and gutter of the entry roadway to the parking lot. A 12" inlet intercepts the drainage near the entry to the parking lot. A 12" pvc pipe connects this inlet to an 18" rcp storm drain , which ultimately connects to the same 69" rcp storm drain as Area "A".

Proposed Site Drainage

The developed condition of the site is split into two main tributary areas, noted as Area "A" and Area "B". Area "A" is the approximately 4.41 acres. Area "A" will consist of the new single family homes, bungalows, and new center court. Storm drainage for Area "A" will be captured using a storm drain system comprising of catch basins and pipes. The proposed storm drain system will be installed within the site's interior street and will connect to a proposed Modular Wetlands System for water quality treatment before connecting to the existing 69" rcp storm drain system.

Area "B" at 2.56 acres consists of the existing tennis courts to remain, tennis club house, pool and parking lot. Storm drainage are collected via a system of catch basins and pipe system which conveys it to the aforementioned Modular Wetlands System for water quality treatment before connecting to the existing 69" rcp storm drain system.

Summary

Hydrology

The following table shows the existing condition estimated peak flow rate for the project site. See Existing Hydrology Map for location.

Tributary Area	Area (Ac.)	Q_{25} (cfs)	Q_{100} (cfs)
A	5.68	16.31	21.39
B	1.29	4.53	5.82
TOTAL (After Confluence)	6.97	20.02	26.25

A "confluence" calculation was performed on the existing flows from tributaries areas A & B to identify their combined impact upon the downstream drainage system. The total existing condition flow is 20.02 cfs for the 25-year storm event, and 26.25 cfs for the 100-year storm event.

The following table shows the post-development condition estimated peak flow rate for the project site. See Proposed Hydrology Map for location.

Tributary Area	Area (Ac.)	Q_{25} (cfs)	Q_{100} (cfs)
A	4.41	13.20	17.04
B	2.56	7.72	9.93
TOTAL(After Confluence)	6.97	20.66	26.67

The 25-year & 100-year storm events post-development runoff rates are very near the existing condition runoff rates. We expected a decrease in total runoff rates due to an increase in travel time resulting in a longer time of concentration and lower rainfall intensity and also to an increase in pervious area resulting from the replacement of some paved tennis court and parking areas with landscaping. The results of the hydrologic modeling are conservative (slightly over-estimating the runoff based on the use of standard runoff coefficients, times of concentration and acceptable variance in rainfall predictions – sometimes approaching a margin of error of 25%). Consequently, we believe that the small difference between pre and post-development runoff is insignificant.

Additionally, the flow from the proposed development will reach the existing 69" storm drain long before the peak flow in that pipe arrives. Even if the two flows were to arrive at the same time (in a rare "coincident peak" event that is well beyond the design criteria for any municipal drainage system), the total contribution from this property would be less than 4% of the peak flow in the mainline and negligible.

Given the forgoing and the general expectation that replacing some existing paved surfaces with proposed landscaped areas should reduce the runoff, it is reasonable to conclude that the proposed development has no adverse impacts upon any of the downstream drainage systems.

Therefore, the proposed development will not adversely impact the capacity of the existing 69" storm drain system being connected to and no measures are required to modify the rate or volume of runoff.

Mitigation Measures are proposed to maintain water quality and these are described in the separate Water Quality Management Plan for this project.

The site is located within the Flood Insurance Rate Map's Zone X. Zone "X" is described as an area of 1% annual chance flood with average depths of less than 1 foot. Additional 100-year frequency flow calculations are provided for developed conditions and are enclosed in Appendix 2. During a 100-year storm, the site will be protected from flooding, as the water surface for all street flows stays within the gutter and street; average depth of flow for entire site is less than 1 foot. Secondary overflow for the site is provided by outletting through the site's interior streets to the exit on Pacific Coast Highway.

In Appendix 3, a "Pipe Capacity Table" is presented along with a table for each of the proposed buildings showing the largest roof tributary area to each of the down drain pipe connection. Based on the pro-ratio of the estimated 25-year storm event peak flow rate, the hydraulic calculation in the table shows the minimum pipe size and slope required to convey the storm drainage away from the roof tributary area. Each of storm drain to the roof down drain connections are designed to meet or exceed this minimum pipe size and slope.

Therefore, all proposed Area Drain pipe systems near the buildings and landscaped areas as well as the Storm Drain pipe systems in the parking areas are larger than the minimum size required to convey the runoff. All pipes will carry the maximum design flow rates while operating under "open channel" conditions with no pipes flowing under pressure. This oversizing of proposed pipelines ensures that none of the low areas, including the depressed tennis "Stadium Court" and the swimming pool deck, will be subject to backflow, surcharge or ponding of water under the design conditions.

Building roof drains are connect to the area drains system with redundant secondary surface outlets that allow water to flow out of the building drain even if the areas drains are blocked.

The Stadium Court is provided with a "linear slot drain" along its entire 128-foot long western edge to minimize the possibility of inlet grate obstruction.

The villas and bungalows are provided with underground area drain and storm drain systems that are large enough to convey the entire design flow rate operating under open channel flow. Additionally, each of these have "positive surface overflow" paths that can convey the entire design flow to the private street without ponding or flooding of any structures in the unlikely event that the area drains systems become blocked. The positive overflow "Spill Elevations" are noted on the plans.

All areas adjacent to buildings that are enclosed by walls including the spa, swimming pool deck and the villa patios are provided with "overflow scupper" openings in the walls located at elevations lower than the building finished floors. This provides for an emergency release of ponded water in the event of a drain system blockage so that no buildings can be flooded. The scupper locations and elevations are noted on the Grading Plans.

Parking lot and pedestrian walkway areas near building entries, visitor drop off and handicapped parking spaces are all provided with higher elevations and surface slopes away from the buildings so that visitors will not be inconvenienced, even during heavy rainfall conditions, by ponded or moving surface rain water.

IN CONCLUSION

The proposed system of roof drain connections, surface inlets, area drains, storm drains, emergency overflow scuppers and positive overflow paths ensure that the entire site will be protected from storm water damage and inconvenience even during the most extreme rainfall conditions.

References

1. Orange County Hydrology Manual

APPENDIX 1

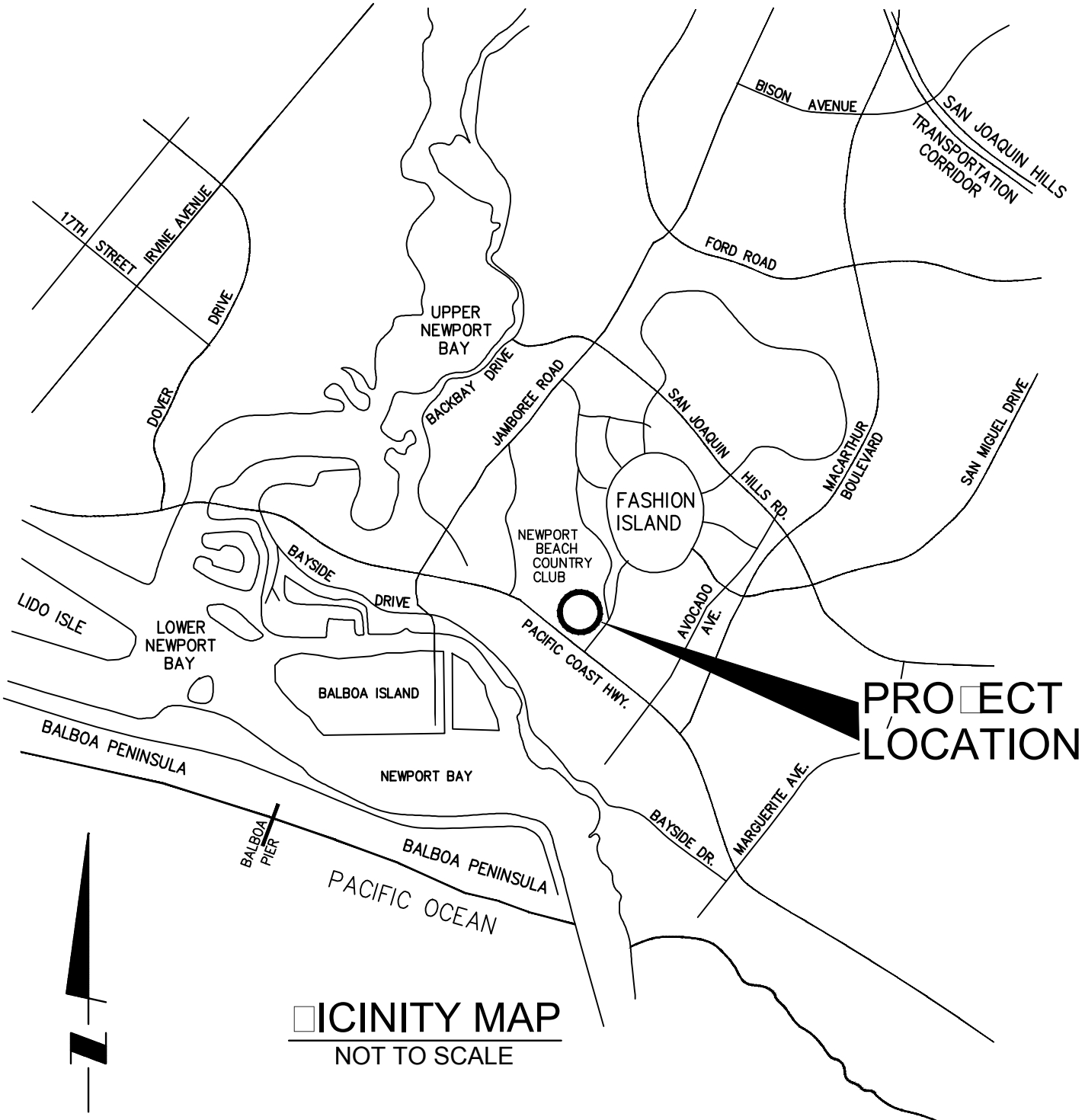
VICINITY MAP

SOIL TYPE MAP

EXISTING HYDROLOGY MAP

PROPOSED HYDROLOGY MAP

FLOOD INSURANCE RATE MAP



VICINITY MAP

NOT TO SCALE

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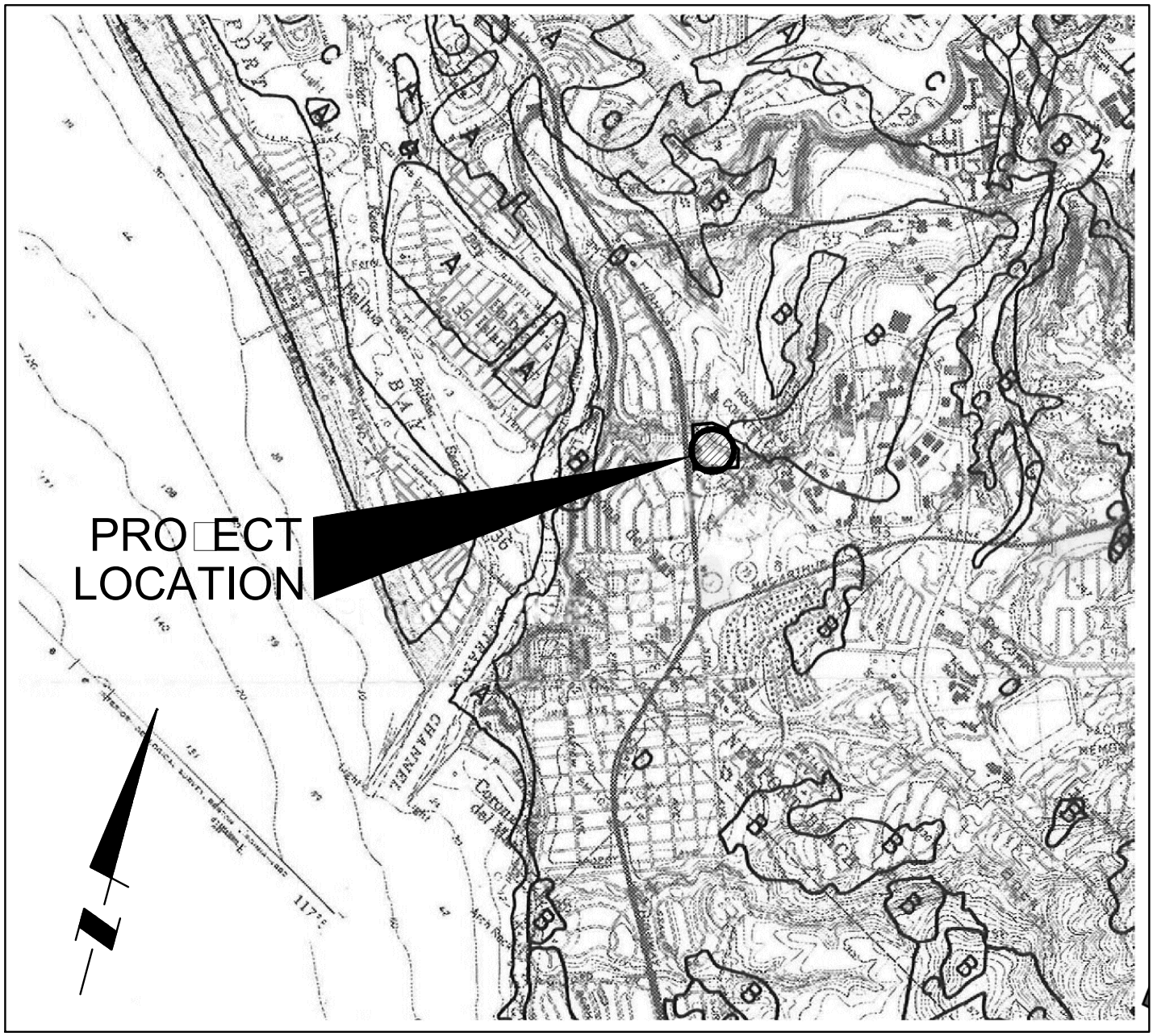
VICINITY MAP

NEWPORT BEACH COUNTRY CLUB

II CLUBHOUSE DRIVE, NEWPORT BEACH, CA 92660



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SOILS INDEX

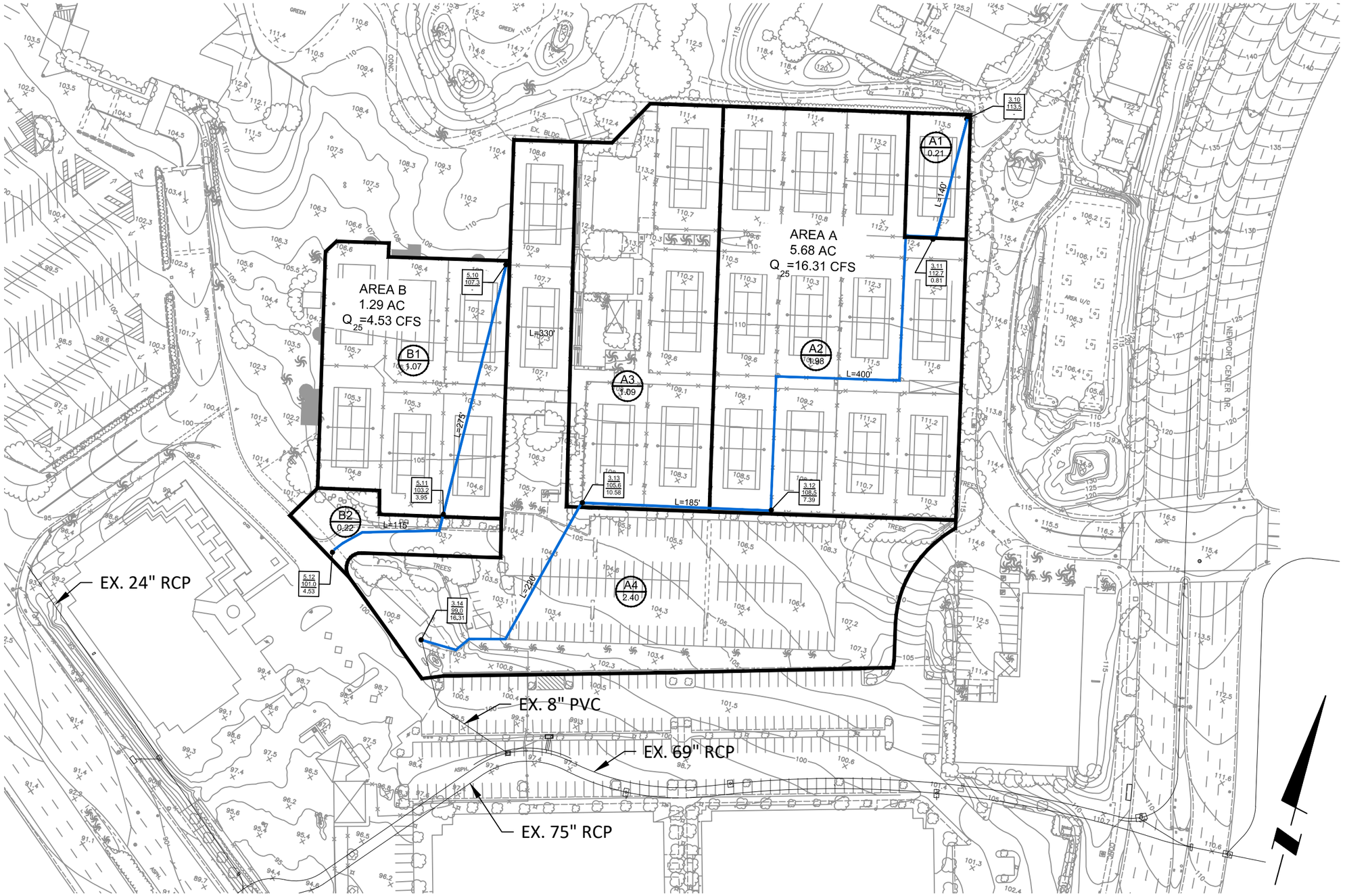
NEWPORT BEACH COUNTRY CLUB

II CLUBHOUSE DRIVE, NEWPORT BEACH, CA 92660

LEGEND

A7 / 0.19 — AREA ID / ACRES

3.21 / 107.6 / 0.80 — NODE / ELEVATION (FS/INV) / Q_{25} C.F.S.



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DRAINAGE EXHIBIT
EXISTING CONDITION

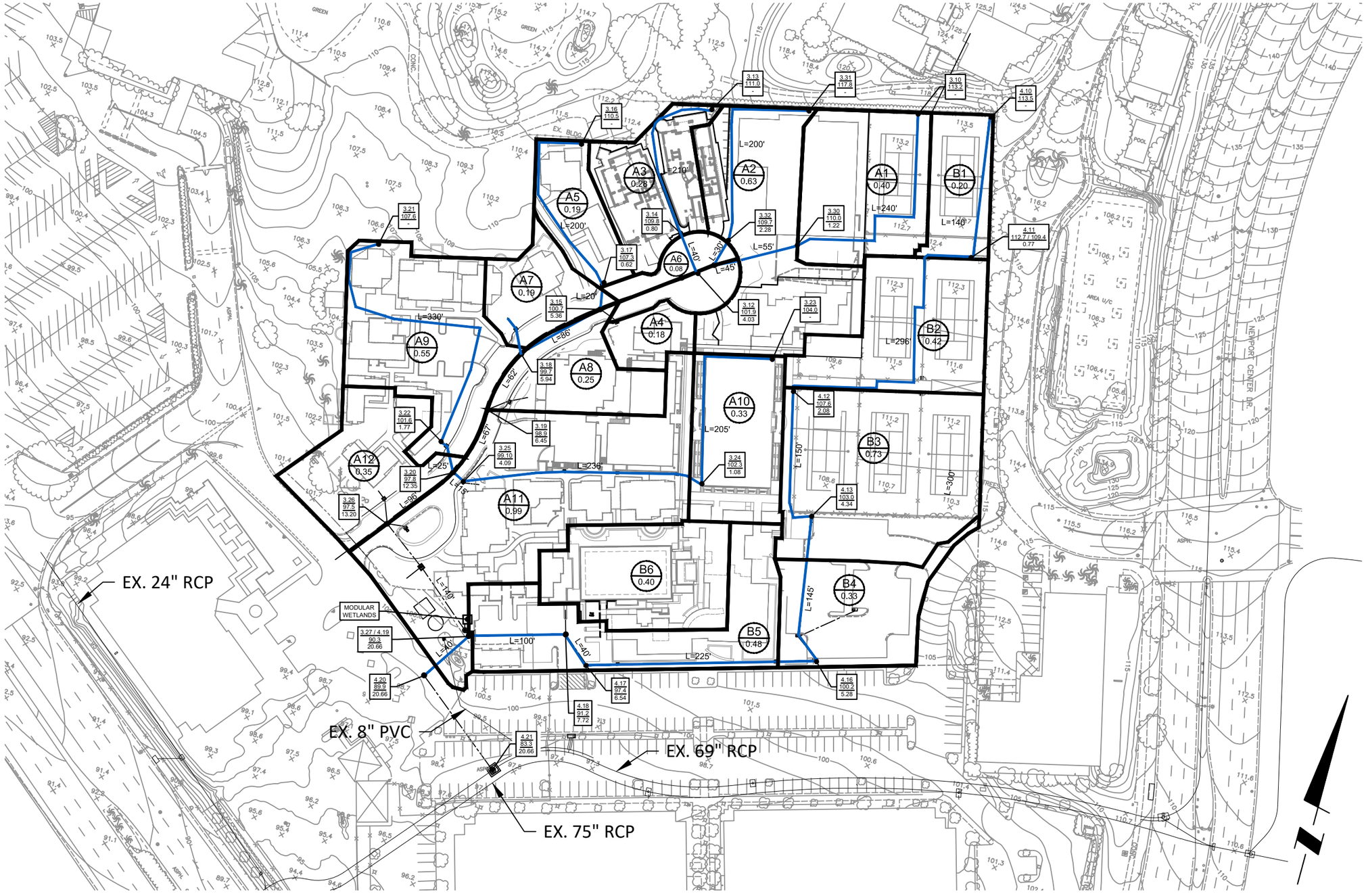
TRACT NO. 15347

IN THE CITY OF NEWPORT BEACH, CA 92660
COUNTY OF ORANGE, CALIFORNIA

LEGEND

A7 / 0.19 — AREA ID / ACRES

3.21 / 107.6 / 0.80 — NODE / ELEVATION (FS/INV) / Q_{25} C.F.S.



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DRAINAGE EXHIBIT
PROPOSED CONDITION

TRACT NO. 15347

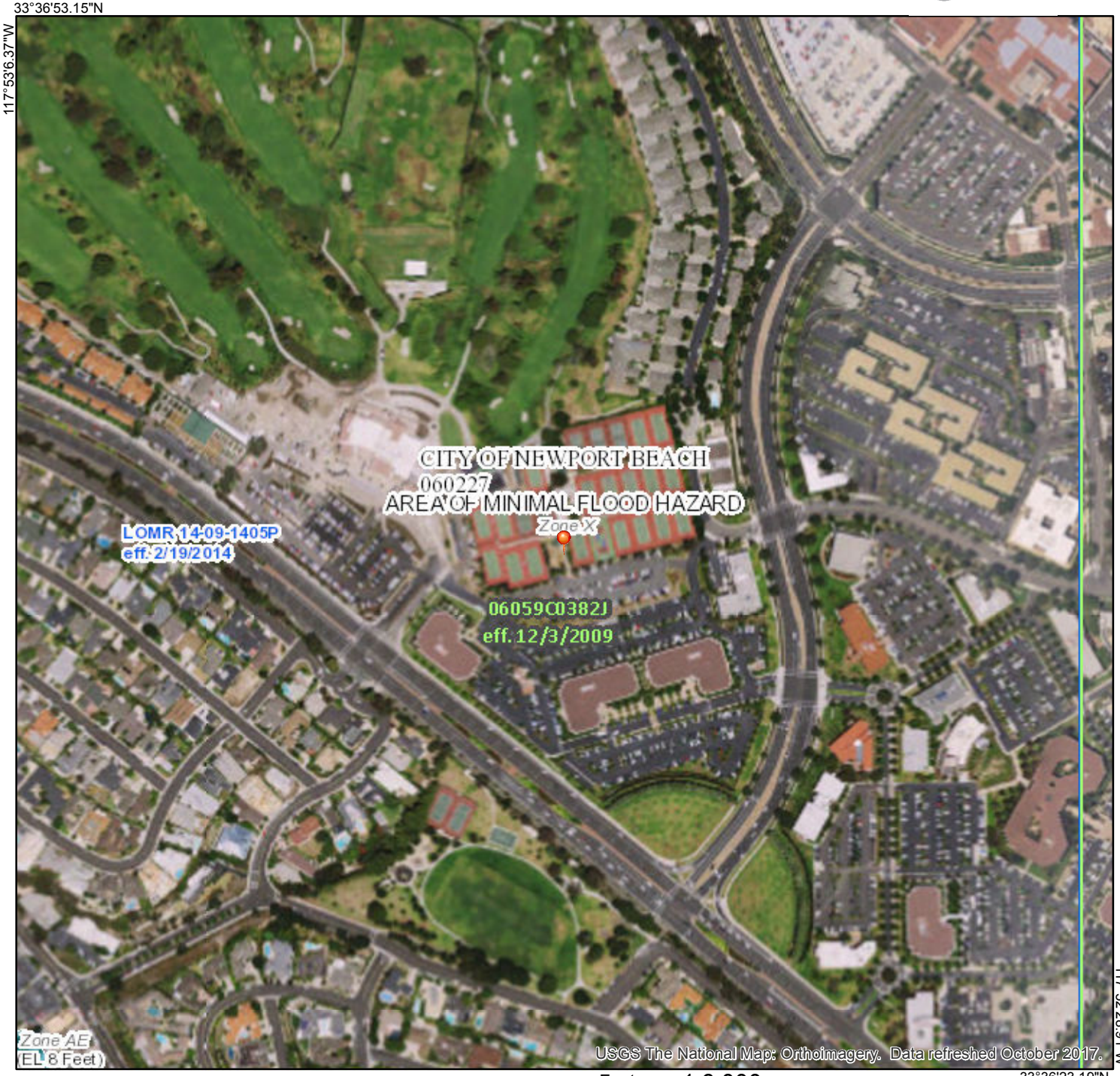
IN THE CITY OF NEWPORT BEACH, CA 92660
COUNTY OF ORANGE, CALIFORNIA

National Flood Hazard Layer FIRMette

FEMA

33°36'53.15"N

117°53'6.37"W



117°52'28.91"W

33°36'23.19"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/10/2018 at 10:48:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX 2

HYDROLOGY CALCULATIONS

EXISTING CONDITION HYDROLOGY

25-YEAR STORM EVENT

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******************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
         (c) Copyright 1983-2010 Advanced Engineering Software (aes)
             Ver. 17.0  Release Date: 07/01/2010  License ID 1623

                          Analysis prepared by:

                        MK Engineering Group, Inc.
                     17520 Newhope Street, Suite 140
                        Fountain Valley, CA 92708
                             (657) 622-2100

------------------------------------------------------------------------------
  FILE NAME: NBCCEXB1.DAT
  TIME/DATE OF STUDY: 11:15 11/01/2018
==============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==============================================================================
                      --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

******************************************************************************
  FLOW PROCESS FROM NODE      3.10 TO NODE      3.11 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   140.00
  ELEVATION DATA: UPSTREAM(FEET) =    113.50  DOWNSTREAM(FEET) =    112.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.165
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.284
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 -        0.21      0.20      0.030     0    6.16
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA RUNOFF(CFS) =      0.81
  TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      0.81

******************************************************************************
  FLOW PROCESS FROM NODE      3.11 TO NODE      3.12 IS CODE =  41
------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   112.70  DOWNSTREAM(FEET) =   108.50
  FLOW LENGTH(FEET) =   400.00   MANNING'S N =  0.011
  ASSUME FULL-FLOWING PIPELINE
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.12
  PIPE FLOW VELOCITY = (TOTAL FLOW)/(PIPE CROSS SECTION AREA)
  GIVEN PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      0.81
  PIPE TRAVEL TIME(MIN.) =   1.62    Tc(MIN.) =    7.78
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.12 =     540.00 FEET.

******************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =  81
------------------------------------------------------------------------------
```

```
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    7.78
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.755
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED                -        1.98      0.20      0.030     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA AREA(ACRES) =    1.98      SUBAREA RUNOFF(CFS) =    6.68
  EFFECTIVE AREA(ACRES) =      2.19   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.03
  TOTAL AREA(ACRES) =        2.2       PEAK FLOW RATE(CFS) =       7.39

********************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.13 IS CODE =  91
--------------------------------------------------------------------------------
  >>>>>COMPUTE "V" GUTTER FLOW TRAVEL TIME THRU SUBAREA<<<<<
================================================================================
  UPSTREAM NODE ELEVATION(FEET) =    108.50
  DOWNSTREAM NODE ELEVATION(FEET) =    105.60
  CHANNEL LENGTH THRU SUBAREA(FEET) =   185.00
  "V" GUTTER WIDTH(FEET) =   3.00   GUTTER HIKE(FEET) =  0.500
  PAVEMENT LIP(FEET) =  0.031   MANNING'S N = .0150
  PAVEMENT CROSSFALL(DECIMAL NOTATION) = 0.02000
  MAXIMUM DEPTH(FEET) =   1.00
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.589
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED                -        1.09      0.20      0.030     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      9.14
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   4.76
  AVERAGE FLOW DEPTH(FEET) =   0.65   FLOOD WIDTH(FEET) =   15.00
  "V" GUTTER FLOW TRAVEL TIME(MIN.) =   0.65   Tc(MIN.) =   8.43
  SUBAREA AREA(ACRES) =    1.09       SUBAREA RUNOFF(CFS) =    3.51
  EFFECTIVE AREA(ACRES) =    3.28     AREA-AVERAGED Fm(INCH/HR) =   0.01
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.03
  TOTAL AREA(ACRES) =        3.3         PEAK FLOW RATE(CFS) =      10.58

  END OF SUBAREA "V" GUTTER HYDRAULICS:
  DEPTH(FEET) =  0.67   FLOOD WIDTH(FEET) =   17.20
  FLOW VELOCITY(FEET/SEC.) =   4.64   DEPTH*VELOCITY(FT*FT/SEC) =   3.13
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.13 =     725.00 FEET.

********************************************************************************
  FLOW PROCESS FROM NODE      3.13 TO NODE      3.14 IS CODE =  54
--------------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    105.60  DOWNSTREAM(FEET) =     99.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   220.00   CHANNEL SLOPE =  0.0300
  CHANNEL BASE(FEET) =  200.00   "Z" FACTOR =  99.990
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.203
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        2.40      0.20      0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      14.02
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   1.95
  AVERAGE FLOW DEPTH(FEET) =   0.04   TRAVEL TIME(MIN.) =   1.88
  Tc(MIN.) =   10.31
  SUBAREA AREA(ACRES) =     2.40       SUBAREA RUNOFF(CFS) =    6.87
  EFFECTIVE AREA(ACRES) =      5.68     AREA-AVERAGED Fm(INCH/HR) =   0.01
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.06
  TOTAL AREA(ACRES) =        5.7         PEAK FLOW RATE(CFS) =      16.31

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.04   FLOW VELOCITY(FEET/SEC.) =   1.95
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.14 =     945.00 FEET.

********************************************************************************
  FLOW PROCESS FROM NODE      3.14 TO NODE      3.14 IS CODE =   1
--------------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
================================================================================
```

```
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   10.31
  RAINFALL INTENSITY(INCH/HR) =   3.20
  AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.06
  EFFECTIVE STREAM AREA(ACRES) =       5.68
  TOTAL STREAM AREA(ACRES) =       5.68
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      16.31

****************************************************************************
  FLOW PROCESS FROM NODE      5.10 TO NODE      5.11 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   275.00
  ELEVATION DATA: UPSTREAM(FEET) =    107.30  DOWNSTREAM(FEET) =    103.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.667
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.099
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 -        1.07      0.20      0.010    75    6.67
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.010
  SUBAREA RUNOFF(CFS) =      3.95
  TOTAL AREA(ACRES) =      1.07   PEAK FLOW RATE(CFS) =      3.95

****************************************************************************
  FLOW PROCESS FROM NODE      5.11 TO NODE      5.12 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  103.20  DOWNSTREAM ELEVATION(FEET) =  101.00
  STREET LENGTH(FEET) =   115.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 26.50

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   1.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       4.33
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.35
    HALFSTREET FLOOD WIDTH(FEET) =   11.02
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    3.25
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.13
  STREET FLOW TRAVEL TIME(MIN.) =   0.59   Tc(MIN.) =    7.26
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.907
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                 D        0.22      0.20      0.100    75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.22      SUBAREA RUNOFF(CFS) =    0.77
  EFFECTIVE AREA(ACRES) =      1.29    AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.03
  TOTAL AREA(ACRES) =        1.3        PEAK FLOW RATE(CFS) =       4.53

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.35   HALFSTREET FLOOD WIDTH(FEET) =  11.20
  FLOW VELOCITY(FEET/SEC.) =  3.30   DEPTH*VELOCITY(FT*FT/SEC.) =   1.16
  LONGEST FLOWPATH FROM NODE      5.10 TO NODE      5.12 =     390.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      5.12 TO NODE      3.14 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
```

TIME OF CONCENTRATION(MIN.) = 7.26
RAINFALL INTENSITY(INCH/HR) = 3.91
AREA-AVERAGED Fm(INCH/HR) = 0.01
AREA-AVERAGED Fp(INCH/HR) = 0.20
AREA-AVERAGED Ap = 0.03
EFFECTIVE STREAM AREA(ACRES) = 1.29
TOTAL STREAM AREA(ACRES) = 1.29
PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.53

** CONFLUENCE DATA **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	16.31	10.31	3.203	0.20(0.01)	0.06	5.7	3.10
2	4.53	7.26	3.907	0.20(0.01)	0.03	1.3	5.10

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	18.54	7.26	3.907	0.20(0.01)	0.05	5.3	5.10
2	20.02	10.31	3.203	0.20(0.01)	0.05	7.0	3.10

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 20.02 Tc(MIN.) = 10.31
EFFECTIVE AREA(ACRES) = 6.97 AREA-AVERAGED Fm(INCH/HR) = 0.01
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.05
TOTAL AREA(ACRES) = 7.0
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.14 = 945.00 FEET.

==========

END OF STUDY SUMMARY:
TOTAL AREA(ACRES) = 7.0 TC(MIN.) = 10.31
EFFECTIVE AREA(ACRES) = 6.97 AREA-AVERAGED Fm(INCH/HR)= 0.01
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.053
PEAK FLOW RATE(CFS) = 20.02

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	18.54	7.26	3.907	0.20(0.01)	0.05	5.3	5.10
2	20.02	10.31	3.203	0.20(0.01)	0.05	7.0	3.10

==========
==========

END OF RATIONAL METHOD ANALYSIS

♀

PROPOSED CONDITION HYDROLOGY

25-YEAR STORM EVENT

```
**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                           Analysis prepared by:

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                        17520 Newhope Street, Suite 140
                           Fountain Valley, CA 92708
                                (657) 622-2100

 ************************* DESCRIPTION OF STUDY *************************
* 25-YR STORM EVENT                                                      *
* PROPOSED CONDITION                                                     *
* NBCC                                                                   *
 ************************************************************************

  FILE NAME: NBCC-PRD.DAT
  TIME/DATE OF STUDY: 11:53 10/26/2021
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =   25.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

+------------------------------------------------------------------------+
| SUB AREA A                                                             |
|                                                                        |
|                                                                        |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE      3.10 TO NODE      3.30 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   240.00
  ELEVATION DATA: UPSTREAM(FEET) =    113.20  DOWNSTREAM(FEET) =    110.00
```

```
  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.750
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.514
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "3-4 DWELLINGS/ACRE"       -        0.40      0.20     0.650     0    8.75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA RUNOFF(CFS) =      1.22
  TOTAL AREA(ACRES) =      0.40   PEAK FLOW RATE(CFS) =      1.22

****************************************************************************
  FLOW PROCESS FROM NODE      3.30 TO NODE      3.12 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   110.00  DOWNSTREAM(FEET) =   101.90
  FLOW LENGTH(FEET) =    95.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   3.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  10.20
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.22
  PIPE TRAVEL TIME(MIN.) =   0.16    Tc(MIN.) =    8.90
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.12 =     335.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.90
  RAINFALL INTENSITY(INCH/HR) =   3.48
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       0.40
  TOTAL STREAM AREA(ACRES) =       0.40
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.22

****************************************************************************
  FLOW PROCESS FROM NODE      3.31 TO NODE      3.32 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  ELEVATION DATA: UPSTREAM(FEET) =    117.80  DOWNSTREAM(FEET) =    109.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.514
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.153
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "3-4 DWELLINGS/ACRE"       -        0.63      0.20     0.650     0    6.51
```

```
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA RUNOFF(CFS) =      2.28
  TOTAL AREA(ACRES) =      0.63   PEAK FLOW RATE(CFS) =      2.28

****************************************************************************
  FLOW PROCESS FROM NODE      3.32 TO NODE      3.12 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   110.30  DOWNSTREAM(FEET) =   101.90
  FLOW LENGTH(FEET) =    30.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN   8.0 INCH PIPE IS   3.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  18.58
  GIVEN PIPE DIAMETER(INCH) =   8.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.28
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    6.54
  LONGEST FLOWPATH FROM NODE      3.31 TO NODE      3.12 =     230.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.54
  RAINFALL INTENSITY(INCH/HR) =   4.14
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       0.63
  TOTAL STREAM AREA(ACRES) =       0.63
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.28

****************************************************************************
  FLOW PROCESS FROM NODE      3.13 TO NODE      3.14 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   210.00
  ELEVATION DATA: UPSTREAM(FEET) =    111.00  DOWNSTREAM(FEET) =    109.80

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.826
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.291
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "3-4 DWELLINGS/ACRE"       -        0.28      0.20     0.650     0    9.83
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA RUNOFF(CFS) =      0.80
  TOTAL AREA(ACRES) =      0.28   PEAK FLOW RATE(CFS) =      0.80

****************************************************************************
  FLOW PROCESS FROM NODE      3.14 TO NODE      3.12 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
```

```
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   109.80  DOWNSTREAM(FEET) =   101.90
  FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   2.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.07
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.80
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    9.89
  LONGEST FLOWPATH FROM NODE      3.13 TO NODE      3.12 =     250.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
================================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.89
  RAINFALL INTENSITY(INCH/HR) =   3.28
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       0.28
  TOTAL STREAM AREA(ACRES) =       0.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       0.80

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        1.22    8.90    3.479  0.20( 0.13) 0.65       0.4       3.10
      2        2.28    6.54    4.143  0.20( 0.13) 0.65       0.6       3.31
      3        0.80    9.89    3.279  0.20( 0.13) 0.65       0.3       3.13

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  3 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        4.03    6.54    4.143  0.20( 0.13) 0.65       1.1       3.31
      2        3.89    8.90    3.479  0.20( 0.13) 0.65       1.3       3.10
      3        3.73    9.89    3.279  0.20( 0.13) 0.65       1.3       3.13

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       4.03    Tc(MIN.) =     6.54
  EFFECTIVE AREA(ACRES) =       1.11   AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
  TOTAL AREA(ACRES) =        1.3
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.12 =     335.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.15 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   101.90  DOWNSTREAM(FEET) =   100.70
  FLOW LENGTH(FEET) =   110.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   6.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.21
```

```
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.03
  PIPE TRAVEL TIME(MIN.) =   0.30    Tc(MIN.) =    6.84
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.15 =     445.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.15 TO NODE      3.15 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    6.84
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.041
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.18      0.20     0.650     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    0.63
  EFFECTIVE AREA(ACRES) =      1.29   AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
  TOTAL AREA(ACRES) =        1.5       PEAK FLOW RATE(CFS) =       4.54

****************************************************************************
  FLOW PROCESS FROM NODE      3.15 TO NODE      3.15 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    6.84
  RAINFALL INTENSITY(INCH/HR) =   4.04
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       1.29
  TOTAL STREAM AREA(ACRES) =       1.49
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       4.54

****************************************************************************
  FLOW PROCESS FROM NODE      3.16 TO NODE      3.17 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  ELEVATION DATA: UPSTREAM(FEET) =    110.50  DOWNSTREAM(FEET) =    107.30

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.843
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.739
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "3-4 DWELLINGS/ACRE"       -        0.19      0.20     0.650     0    7.84
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA RUNOFF(CFS) =      0.62
  TOTAL AREA(ACRES) =      0.19   PEAK FLOW RATE(CFS) =      0.62

****************************************************************************
```

```
  FLOW PROCESS FROM NODE      3.17 TO NODE      3.17 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.84
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.739
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
        LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.08      0.20     0.650     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA AREA(ACRES) =    0.08      SUBAREA RUNOFF(CFS) =    0.26
  EFFECTIVE AREA(ACRES) =      0.27   AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
  TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       0.88

****************************************************************************
  FLOW PROCESS FROM NODE      3.17 TO NODE      3.15 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   107.30  DOWNSTREAM(FEET) =   100.70
  FLOW LENGTH(FEET) =    20.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   1.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  13.59
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.88
  PIPE TRAVEL TIME(MIN.) =   0.02    Tc(MIN.) =    7.87
  LONGEST FLOWPATH FROM NODE      3.16 TO NODE      3.15 =     220.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.15 TO NODE      3.15 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.87
  RAINFALL INTENSITY(INCH/HR) =   3.73
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       0.27
  TOTAL STREAM AREA(ACRES) =       0.27
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       0.88

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        4.54    6.84    4.041  0.20( 0.13) 0.65       1.3       3.31
      1        4.32    9.20    3.415  0.20( 0.13) 0.65       1.5       3.10
      1        4.15   10.19    3.224  0.20( 0.13) 0.65       1.5       3.13
      2        0.88    7.87    3.732  0.20( 0.13) 0.65       0.3       3.16

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
```

NUMBER	(CFS)	(MIN.)	(INCH/HR)	(INCH/HR)	(ACRES)	NODE
1	5.36	6.84	4.041	0.20(0.13) 0.65	1.5	3.31
2	5.32	7.87	3.732	0.20(0.13) 0.65	1.6	3.16
3	5.12	9.20	3.415	0.20(0.13) 0.65	1.7	3.10
4	4.90	10.19	3.224	0.20(0.13) 0.65	1.8	3.13

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 5.36 Tc(MIN.) = 6.84
EFFECTIVE AREA(ACRES) = 1.52 AREA-AVERAGED Fm(INCH/HR) = 0.13
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.65
TOTAL AREA(ACRES) = 1.8
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.15 = 445.00 FEET.

****
FLOW PROCESS FROM NODE 3.15 TO NODE 3.18 IS CODE = 41

>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==
ELEVATION DATA: UPSTREAM(FEET) = 100.70 DOWNSTREAM(FEET) = 99.67
FLOW LENGTH(FEET) = 86.00 MANNING'S N = 0.011
DEPTH OF FLOW IN 24.0 INCH PIPE IS 7.1 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.96
GIVEN PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 5.36
PIPE TRAVEL TIME(MIN.) = 0.21 Tc(MIN.) = 7.04
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.18 = 531.00 FEET.

****
FLOW PROCESS FROM NODE 3.18 TO NODE 3.18 IS CODE = 81

>>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==
MAINLINE Tc(MIN.) = 7.04
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.974
SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
USER-DEFINED	-	0.19	0.20	0.400	-

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.20
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.400
SUBAREA AREA(ACRES) = 0.19 SUBAREA RUNOFF(CFS) = 0.67
EFFECTIVE AREA(ACRES) = 1.71 AREA-AVERAGED Fm(INCH/HR) = 0.12
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.62
TOTAL AREA(ACRES) = 2.0 PEAK FLOW RATE(CFS) = 5.94

****
FLOW PROCESS FROM NODE 3.18 TO NODE 3.19 IS CODE = 41

>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==
ELEVATION DATA: UPSTREAM(FEET) = 99.67 DOWNSTREAM(FEET) = 98.86
FLOW LENGTH(FEET) = 62.00 MANNING'S N = 0.011
DEPTH OF FLOW IN 24.0 INCH PIPE IS 7.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.39
GIVEN PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 5.94
PIPE TRAVEL TIME(MIN.) = 0.14 Tc(MIN.) = 7.18
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.19 = 593.00 FEET.

****

```
  FLOW PROCESS FROM NODE      3.19 TO NODE      3.19 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.18
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.930
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.25      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.25      SUBAREA RUNOFF(CFS) =    0.87
  EFFECTIVE AREA(ACRES) =      1.96   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.59
  TOTAL AREA(ACRES) =        2.2       PEAK FLOW RATE(CFS) =       6.74

****************************************************************************
  FLOW PROCESS FROM NODE      3.19 TO NODE      3.20 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    98.66  DOWNSTREAM(FEET) =    97.79
  FLOW LENGTH(FEET) =    67.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   7.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.65
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.74
  PIPE TRAVEL TIME(MIN.) =   0.15    Tc(MIN.) =    7.33
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.20 =     660.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.20 TO NODE      3.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.33
  RAINFALL INTENSITY(INCH/HR) =   3.89
  AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.59
  EFFECTIVE STREAM AREA(ACRES) =       1.96
  TOTAL STREAM AREA(ACRES) =       2.20
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       6.74

****************************************************************************
  FLOW PROCESS FROM NODE      3.21 TO NODE      3.22 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   330.00
  ELEVATION DATA: UPSTREAM(FEET) =    107.60  DOWNSTREAM(FEET) =    101.60

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.162
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.655
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

```
     LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  CONDOMINIUMS             -        0.55      0.20     0.400     0    8.16
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA RUNOFF(CFS) =      1.77
  TOTAL AREA(ACRES) =      0.55   PEAK FLOW RATE(CFS) =      1.77

****************************************************************************
  FLOW PROCESS FROM NODE      3.22 TO NODE      3.20 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   101.60  DOWNSTREAM(FEET) =    97.99
  FLOW LENGTH(FEET) =    25.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   2.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  12.54
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.77
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    8.19
  LONGEST FLOWPATH FROM NODE      3.21 TO NODE      3.20 =     355.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.20 TO NODE      3.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.19
  RAINFALL INTENSITY(INCH/HR) =   3.65
  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.40
  EFFECTIVE STREAM AREA(ACRES) =       0.55
  TOTAL STREAM AREA(ACRES) =       0.55
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.77

****************************************************************************
  FLOW PROCESS FROM NODE      3.23 TO NODE      3.24 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   205.00
  ELEVATION DATA: UPSTREAM(FEET) =    104.00  DOWNSTREAM(FEET) =    102.30

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.893
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.725
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
     LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  CONDOMINIUMS             -        0.33      0.20     0.400     0    7.89
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA RUNOFF(CFS) =      1.08
  TOTAL AREA(ACRES) =      0.33   PEAK FLOW RATE(CFS) =      1.08

****************************************************************************
  FLOW PROCESS FROM NODE      3.24 TO NODE      3.25 IS CODE =  41
----------------------------------------------------------------------------
```

```
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   102.30  DOWNSTREAM(FEET) =    99.10
  FLOW LENGTH(FEET) =   236.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   3.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.72
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.08
  PIPE TRAVEL TIME(MIN.) =   0.83    Tc(MIN.) =    8.73
  LONGEST FLOWPATH FROM NODE      3.23 TO NODE      3.25 =     441.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.25 TO NODE      3.25 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.73
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.520
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.99      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.99      SUBAREA RUNOFF(CFS) =    3.06
  EFFECTIVE AREA(ACRES) =      1.32   AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.40
  TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       4.09

****************************************************************************
  FLOW PROCESS FROM NODE      3.25 TO NODE      3.20 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   101.00  DOWNSTREAM(FEET) =    97.99
  FLOW LENGTH(FEET) =    15.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   3.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  18.06
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.09
  PIPE TRAVEL TIME(MIN.) =   0.01    Tc(MIN.) =    8.74
  LONGEST FLOWPATH FROM NODE      3.23 TO NODE      3.20 =     456.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.20 TO NODE      3.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.74
  RAINFALL INTENSITY(INCH/HR) =   3.52
  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.40
  EFFECTIVE STREAM AREA(ACRES) =       1.32
  TOTAL STREAM AREA(ACRES) =       1.32
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       4.09
```

** CONFLUENCE DATA **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	6.74	7.33	3.885	0.20(0.12)	0.59	2.0	3.31
1	6.58	8.36	3.606	0.20(0.12)	0.60	2.1	3.16
1	6.30	9.70	3.315	0.20(0.12)	0.60	2.2	3.10
1	6.02	10.69	3.137	0.20(0.12)	0.60	2.2	3.13
2	1.77	8.19	3.647	0.20(0.08)	0.40	0.6	3.21
3	4.09	8.74	3.516	0.20(0.08)	0.40	1.3	3.23

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 3 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	12.22	7.33	3.885	0.20(0.10)	0.51	3.6	3.31
2	12.35	8.19	3.647	0.20(0.10)	0.51	3.8	3.21
3	12.34	8.36	3.606	0.20(0.10)	0.51	3.9	3.16
4	12.29	8.74	3.516	0.20(0.10)	0.50	4.0	3.23
5	11.75	9.70	3.315	0.20(0.10)	0.51	4.0	3.10
6	11.18	10.69	3.137	0.20(0.10)	0.51	4.1	3.13

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 12.35 Tc(MIN.) = 8.19
EFFECTIVE AREA(ACRES) = 3.84 AREA-AVERAGED Fm(INCH/HR) = 0.10
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.51
TOTAL AREA(ACRES) = 4.1
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.20 = 660.00 FEET.

****
FLOW PROCESS FROM NODE 3.20 TO NODE 3.26 IS CODE = 41

>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==
ELEVATION DATA: UPSTREAM(FEET) = 97.79 DOWNSTREAM(FEET) = 97.00
FLOW LENGTH(FEET) = 96.00 MANNING'S N = 0.011
DEPTH OF FLOW IN 24.0 INCH PIPE IS 12.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.61
GIVEN PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 12.35
PIPE TRAVEL TIME(MIN.) = 0.21 Tc(MIN.) = 8.41
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.26 = 756.00 FEET.

****
FLOW PROCESS FROM NODE 3.26 TO NODE 3.26 IS CODE = 81

>>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==
MAINLINE Tc(MIN.) = 8.41
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.595
SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
USER-DEFINED	-	0.35	0.20	0.400	-

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.20
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.400
SUBAREA AREA(ACRES) = 0.35 SUBAREA RUNOFF(CFS) = 1.11
EFFECTIVE AREA(ACRES) = 4.19 AREA-AVERAGED Fm(INCH/HR) = 0.10
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.50
TOTAL AREA(ACRES) = 4.4 PEAK FLOW RATE(CFS) = 13.20

```
****************************************************************************
  FLOW PROCESS FROM NODE      3.26 TO NODE      3.27 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    96.80  DOWNSTREAM(FEET) =    90.33
  FLOW LENGTH(FEET) =   140.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   7.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  14.58
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      13.20
  PIPE TRAVEL TIME(MIN.) =   0.16    Tc(MIN.) =    8.57
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.27 =     896.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.27 TO NODE      3.27 IS CODE =  10
----------------------------------------------------------------------------
  >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE      4.10 TO NODE      4.11 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   140.00
  ELEVATION DATA: UPSTREAM(FEET) =    113.50  DOWNSTREAM(FEET) =    112.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.165
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  4.284
  SUBAREA Tc AND LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  -        0.20      0.20     0.030     0    6.16
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA RUNOFF(CFS) =      0.77
  TOTAL AREA(ACRES) =      0.20   PEAK FLOW RATE(CFS) =      0.77

****************************************************************************
  FLOW PROCESS FROM NODE      4.11 TO NODE      4.12 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   109.40  DOWNSTREAM(FEET) =   107.60
  FLOW LENGTH(FEET) =   296.00   MANNING'S N =  0.011
  ASSUME FULL-FLOWING PIPELINE
  PIPE-FLOW VELOCITY(FEET/SEC.) =   2.92
  (PIPE FLOW VELOCITY CORRESPONDING TO NORMAL-DEPTH FLOW
   AT DEPTH = 0.82 * DIAMETER)
  GIVEN PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.77
  PIPE TRAVEL TIME(MIN.) =   1.69    Tc(MIN.) =    7.85
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.12 =     436.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.12 TO NODE      4.12 IS CODE =  81
```

```
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
  MAINLINE Tc(MIN.) =    7.85
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.736
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.42      0.20     0.030     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA AREA(ACRES) =    0.42      SUBAREA RUNOFF(CFS) =    1.41
  EFFECTIVE AREA(ACRES) =      0.62   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.03
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.08

************************************************************************
  FLOW PROCESS FROM NODE      4.12 TO NODE      4.13 IS CODE =  41
------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   107.60  DOWNSTREAM(FEET) =   106.80
  FLOW LENGTH(FEET) =   150.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.12
  GIVEN PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.08
  PIPE TRAVEL TIME(MIN.) =   0.61    Tc(MIN.) =    8.46
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.13 =     586.00 FEET.

************************************************************************
  FLOW PROCESS FROM NODE      4.13 TO NODE      4.13 IS CODE =  81
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
  MAINLINE Tc(MIN.) =    8.46
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.582
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.73      0.20     0.100     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.73      SUBAREA RUNOFF(CFS) =    2.34
  EFFECTIVE AREA(ACRES) =      1.35   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.07
  TOTAL AREA(ACRES) =        1.4       PEAK FLOW RATE(CFS) =       4.34

************************************************************************
  FLOW PROCESS FROM NODE      4.13 TO NODE      4.16 IS CODE =  41
------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   103.00  DOWNSTREAM(FEET) =   100.20
  FLOW LENGTH(FEET) =   145.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   6.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.98
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.34
  PIPE TRAVEL TIME(MIN.) =   0.30    Tc(MIN.) =    8.76
```

```
 LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.16 =     731.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      4.16 TO NODE      4.16 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.76
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.512
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 USER-DEFINED               -        0.33      0.20     0.200     -
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
 SUBAREA AREA(ACRES) =    0.33      SUBAREA RUNOFF(CFS) =    1.03
 EFFECTIVE AREA(ACRES) =      1.68   AREA-AVERAGED Fm(INCH/HR) =  0.02
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.09
 TOTAL AREA(ACRES) =        1.7       PEAK FLOW RATE(CFS) =       5.28

****************************************************************************
 FLOW PROCESS FROM NODE      4.16 TO NODE      4.17 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   100.20  DOWNSTREAM(FEET) =    97.40
 FLOW LENGTH(FEET) =   225.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN  24.0 INCH PIPE IS   6.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.03
 GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.28
 PIPE TRAVEL TIME(MIN.) =   0.53    Tc(MIN.) =    9.30
 LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.17 =     956.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      4.17 TO NODE      4.17 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.30
 *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.396
 SUBAREA LOSS RATE DATA(AMC  II):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 USER-DEFINED               -        0.48      0.20     0.400     -
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
 SUBAREA AREA(ACRES) =    0.48      SUBAREA RUNOFF(CFS) =    1.43
 EFFECTIVE AREA(ACRES) =      2.16   AREA-AVERAGED Fm(INCH/HR) =  0.03
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
 TOTAL AREA(ACRES) =        2.2       PEAK FLOW RATE(CFS) =       6.54

****************************************************************************
 FLOW PROCESS FROM NODE      4.17 TO NODE      4.18 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    97.40  DOWNSTREAM(FEET) =    91.22
 FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN  24.0 INCH PIPE IS   4.1 INCHES
```

```
  PIPE-FLOW VELOCITY(FEET/SEC.) =  18.27
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.54
  PIPE TRAVEL TIME(MIN.) =   0.04    Tc(MIN.) =    9.33
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.18 =     996.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.18 TO NODE      4.18 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    9.33
  *  25 YEAR RAINFALL INTENSITY(INCH/HR) =  3.388
  SUBAREA LOSS RATE DATA(AMC  II):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
        LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.40      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.40      SUBAREA RUNOFF(CFS) =    1.19
  EFFECTIVE AREA(ACRES) =      2.56   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.20
  TOTAL AREA(ACRES) =        2.6       PEAK FLOW RATE(CFS) =       7.72

****************************************************************************
  FLOW PROCESS FROM NODE      4.18 TO NODE      4.19 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    91.22  DOWNSTREAM(FEET) =    90.33
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   9.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.92
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.72
  PIPE TRAVEL TIME(MIN.) =   0.24    Tc(MIN.) =    9.57
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.19 =    1096.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.19 TO NODE      4.19 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
============================================================================

  ** MAIN STREAM CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        7.72    9.57    3.340  0.20( 0.04) 0.20       2.6       4.10
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.19 =    1096.00 FEET.

  ** MEMORY BANK #  1 CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       13.11    7.70    3.778  0.20( 0.10) 0.50       3.9       3.31
      2       13.20    8.57    3.557  0.20( 0.10) 0.50       4.2       3.21
      3       13.18    8.73    3.518  0.20( 0.10) 0.50       4.2       3.16
      4       13.11    9.11    3.435  0.20( 0.10) 0.50       4.3       3.23
      5       12.55   10.08    3.244  0.20( 0.10) 0.50       4.4       3.10
      6       11.94   11.07    3.075  0.20( 0.10) 0.50       4.4       3.13
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      4.19 =     896.00 FEET.
```

```
 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1       20.14    7.70    3.778  0.20( 0.08) 0.39       6.0       3.31
     2       20.55    8.57    3.557  0.20( 0.08) 0.39       6.5       3.21
     3       20.60    8.73    3.518  0.20( 0.08) 0.39       6.6       3.16
     4       20.66    9.11    3.435  0.20( 0.08) 0.39       6.8       3.23
     5       20.56    9.57    3.340  0.20( 0.08) 0.39       6.9       4.10
     6       20.04   10.08    3.244  0.20( 0.08) 0.39       7.0       3.10
     7       19.04   11.07    3.075  0.20( 0.08) 0.39       7.0       3.13
   TOTAL AREA(ACRES) =         7.0

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       20.66  Tc(MIN.) =    9.111
 EFFECTIVE AREA(ACRES) =      6.76  AREA-AVERAGED Fm(INCH/HR) =  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.39
 TOTAL AREA(ACRES) =        7.0
 LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.19 =    1096.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      4.19 TO NODE      4.20 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    90.33  DOWNSTREAM(FEET) =    89.93
 FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN  36.0 INCH PIPE IS  12.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   9.22
 GIVEN PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      20.66
 PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    9.18
 LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.20 =    1136.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      4.20 TO NODE      4.21 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =    89.93  DOWNSTREAM(FEET) =    83.30
 FLOW LENGTH(FEET) =   109.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN  36.0 INCH PIPE IS   8.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  17.58
 GIVEN PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      20.66
 PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    9.29
 LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.21 =    1245.00 FEET.
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        7.0  TC(MIN.) =      9.29
 EFFECTIVE AREA(ACRES) =      6.76  AREA-AVERAGED Fm(INCH/HR)=  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.389
 PEAK FLOW RATE(CFS)   =      20.66

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1       20.14    7.88    3.730  0.20( 0.08) 0.39       6.0       3.31
     2       20.55    8.74    3.516  0.20( 0.08) 0.39       6.5       3.21
     3       20.60    8.91    3.479  0.20( 0.08) 0.39       6.6       3.16
     4       20.66    9.29    3.398  0.20( 0.08) 0.39       6.8       3.23
```

5	20.56	9.75	3.306	0.20(0.08) 0.39	6.9	4.10
6	20.04	10.25	3.212	0.20(0.08) 0.39	7.0	3.10
7	19.04	11.25	3.048	0.20(0.08) 0.39	7.0	3.13

==========

==========

END OF RATIONAL METHOD ANALYSIS

EXISTING CONDITION HYDROLOGY

100-YEAR STORM EVENT

```
****************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
          (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                          Analysis prepared by:

                        MK Engineering Group, Inc.
                     17520 Newhope Street, Suite 140
                        Fountain Valley, CA 92708
                             (657) 622-2100

----------------------------------------------------------------------------
  FILE NAME: NBEX100A.DAT
  TIME/DATE OF STUDY: 11:24 11/01/2018
============================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
============================================================================
                      --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE      3.10 TO NODE      3.11 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   140.00
  ELEVATION DATA: UPSTREAM(FEET) =    113.50  DOWNSTREAM(FEET) =    112.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.165
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.488
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 -        0.21      0.20      0.030    75    6.16
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA RUNOFF(CFS) =      1.04
  TOTAL AREA(ACRES) =      0.21   PEAK FLOW RATE(CFS) =      1.04

****************************************************************************
  FLOW PROCESS FROM NODE      3.11 TO NODE      3.12 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   112.70  DOWNSTREAM(FEET) =   108.50
  FLOW LENGTH(FEET) =   400.00   MANNING'S N =  0.011
  ASSUME FULL-FLOWING PIPELINE
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.28
  PIPE FLOW VELOCITY = (TOTAL FLOW)/(PIPE CROSS SECTION AREA)
  GIVEN PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      1.04
  PIPE TRAVEL TIME(MIN.) =   1.26    Tc(MIN.) =    7.43
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.12 =     540.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =  81
----------------------------------------------------------------------------
```

```
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
  MAINLINE Tc(MIN.) =    7.43
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.932
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED                -        1.98      0.20     0.030     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA AREA(ACRES) =    1.98      SUBAREA RUNOFF(CFS) =    8.78
  EFFECTIVE AREA(ACRES) =      2.19   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.03
  TOTAL AREA(ACRES) =        2.2       PEAK FLOW RATE(CFS) =       9.71

********************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.13 IS CODE =  91
--------------------------------------------------------------------------------
  >>>>>COMPUTE "V" GUTTER FLOW TRAVEL TIME THRU SUBAREA<<<<<
================================================================================
  UPSTREAM NODE ELEVATION(FEET) =    108.50
  DOWNSTREAM NODE ELEVATION(FEET) =    105.60
  CHANNEL LENGTH THRU SUBAREA(FEET) =   185.00
  "V" GUTTER WIDTH(FEET) =   3.00   GUTTER HIKE(FEET) =  0.500
  PAVEMENT LIP(FEET) =  0.031   MANNING'S N = .0150
  PAVEMENT CROSSFALL(DECIMAL NOTATION) = 0.02000
  MAXIMUM DEPTH(FEET) =   1.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.694
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED                -        1.09      0.20     0.030     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =     12.01
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   4.60
  AVERAGE FLOW DEPTH(FEET) =   0.69   FLOOD WIDTH(FEET) =   19.03
  "V" GUTTER FLOW TRAVEL TIME(MIN.) =   0.67   Tc(MIN.) =    8.10
  SUBAREA AREA(ACRES) =    1.09       SUBAREA RUNOFF(CFS) =    4.60
  EFFECTIVE AREA(ACRES) =    3.28     AREA-AVERAGED Fm(INCH/HR) =   0.01
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.03
  TOTAL AREA(ACRES) =        3.3         PEAK FLOW RATE(CFS) =      13.84

  END OF SUBAREA "V" GUTTER HYDRAULICS:
  DEPTH(FEET) =  0.71   FLOOD WIDTH(FEET) =   21.05
  FLOW VELOCITY(FEET/SEC.) =   4.59   DEPTH*VELOCITY(FT*FT/SEC) =   3.27
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.13 =     725.00 FEET.

********************************************************************************
  FLOW PROCESS FROM NODE      3.13 TO NODE      3.14 IS CODE =  54
--------------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
================================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    105.60  DOWNSTREAM(FEET) =     99.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   220.00   CHANNEL SLOPE =  0.0300
  CHANNEL BASE(FEET) =  200.00   "Z" FACTOR =  99.990
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   0.50
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.196
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  D        2.40      0.20     0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      18.36
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   2.09
  AVERAGE FLOW DEPTH(FEET) =   0.04   TRAVEL TIME(MIN.) =   1.75
  Tc(MIN.) =    9.85
  SUBAREA AREA(ACRES) =     2.40       SUBAREA RUNOFF(CFS) =    9.02
  EFFECTIVE AREA(ACRES) =      5.68     AREA-AVERAGED Fm(INCH/HR) =   0.01
  AREA-AVERAGED Fp(INCH/HR) =   0.20  AREA-AVERAGED Ap =   0.06
  TOTAL AREA(ACRES) =        5.7         PEAK FLOW RATE(CFS) =      21.39

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.05   FLOW VELOCITY(FEET/SEC.) =   2.15
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.14 =     945.00 FEET.

********************************************************************************
  FLOW PROCESS FROM NODE      3.14 TO NODE      3.14 IS CODE =   1
--------------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
================================================================================
```

```
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.85
  RAINFALL INTENSITY(INCH/HR) =   4.20
  AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.06
  EFFECTIVE STREAM AREA(ACRES) =       5.68
  TOTAL STREAM AREA(ACRES) =       5.68
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      21.39

****************************************************************************
  FLOW PROCESS FROM NODE      5.10 TO NODE      5.11 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   275.00
  ELEVATION DATA: UPSTREAM(FEET) =    107.30  DOWNSTREAM(FEET) =    103.20

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.667
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.247
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                -        1.07      0.20      0.010    91    6.67
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.010
  SUBAREA RUNOFF(CFS) =      5.05
  TOTAL AREA(ACRES) =      1.07   PEAK FLOW RATE(CFS) =      5.05

****************************************************************************
  FLOW PROCESS FROM NODE      5.11 TO NODE      5.12 IS CODE =  61
----------------------------------------------------------------------------
  >>>>>COMPUTE STREET FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>(STANDARD CURB SECTION USED)<<<<<
============================================================================
  UPSTREAM ELEVATION(FEET) =  103.20  DOWNSTREAM ELEVATION(FEET) =  101.00
  STREET LENGTH(FEET) =   115.00   CURB HEIGHT(INCHES) =  6.0
  STREET HALFWIDTH(FEET) = 26.50

  DISTANCE FROM CROWN TO CROSSFALL GRADEBREAK(FEET) =   1.00
  INSIDE STREET CROSSFALL(DECIMAL) =  0.020
  OUTSIDE STREET CROSSFALL(DECIMAL)  =  0.020

  SPECIFIED NUMBER OF HALFSTREETS CARRYING RUNOFF =  1
  STREET PARKWAY CROSSFALL(DECIMAL)  =  0.020
  Manning's FRICTION FACTOR for Streetflow Section(curb-to-curb) =   0.0150
  Manning's FRICTION FACTOR for Back-of-Walk Flow Section =   0.0200

    **TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       5.55
    STREETFLOW MODEL RESULTS USING ESTIMATED FLOW:
    STREET FLOW DEPTH(FEET) =  0.37
    HALFSTREET FLOOD WIDTH(FEET) =   12.14
    AVERAGE FLOW VELOCITY(FEET/SEC.) =    3.48
    PRODUCT OF DEPTH&VELOCITY(FT*FT/SEC.) =    1.29
  STREET FLOW TRAVEL TIME(MIN.) =   0.55   Tc(MIN.) =    7.22
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.014
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                D        0.22      0.20      0.100    91
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.22      SUBAREA RUNOFF(CFS) =    0.99
  EFFECTIVE AREA(ACRES) =      1.29    AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.03
  TOTAL AREA(ACRES) =        1.3        PEAK FLOW RATE(CFS) =       5.82

  END OF SUBAREA STREET FLOW HYDRAULICS:
  DEPTH(FEET) = 0.37   HALFSTREET FLOOD WIDTH(FEET) =  12.42
  FLOW VELOCITY(FEET/SEC.) =  3.50   DEPTH*VELOCITY(FT*FT/SEC.) =   1.31
  LONGEST FLOWPATH FROM NODE      5.10 TO NODE      5.12 =     390.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      5.12 TO NODE      3.14 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
```

```
  TIME OF CONCENTRATION(MIN.) =    7.22
  RAINFALL INTENSITY(INCH/HR) =   5.01
  AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.03
  EFFECTIVE STREAM AREA(ACRES) =       1.29
  TOTAL STREAM AREA(ACRES) =       1.29
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.82

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       21.39    9.85    4.196  0.20( 0.01) 0.06       5.7       3.10
      2        5.82    7.22    5.014  0.20( 0.01) 0.03       1.3       5.10

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       24.55    7.22    5.014  0.20( 0.01) 0.05       5.5       5.10
      2       26.25    9.85    4.196  0.20( 0.01) 0.05       7.0       3.10

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      26.25    Tc(MIN.) =     9.85
  EFFECTIVE AREA(ACRES) =       6.97   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.05
  TOTAL AREA(ACRES) =        7.0
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.14 =     945.00 FEET.
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        7.0  TC(MIN.) =      9.85
  EFFECTIVE AREA(ACRES) =      6.97  AREA-AVERAGED Fm(INCH/HR)=  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.053
  PEAK FLOW RATE(CFS)   =      26.25

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
      1       24.55    7.22    5.014  0.20( 0.01) 0.05       5.5       5.10
      2       26.25    9.85    4.196  0.20( 0.01) 0.05       7.0       3.10
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

♀

PROPOSED CONDITION HYDROLOGY

100-YEAR STORM EVENT

```
**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
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                          Analysis prepared by:

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                              (657) 622-2100

 ************************* DESCRIPTION OF STUDY *************************
* 100-YR STORM EVENT                                                     *
* NBCC                                                                   *
*                                                                        *
 ************************************************************************

  FILE NAME: NB-P100.DAT
  TIME/DATE OF STUDY: 11:56 10/26/2021
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   6.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *DATA BANK RAINFALL USED*
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE      3.10 TO NODE      3.30 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   240.00
  ELEVATION DATA: UPSTREAM(FEET) =    113.20  DOWNSTREAM(FEET) =    110.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.750
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.490
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
```

```
     LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "3-4 DWELLINGS/ACRE"       -        0.40      0.20     0.650     0    8.75
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA RUNOFF(CFS) =      1.57
  TOTAL AREA(ACRES) =      0.40   PEAK FLOW RATE(CFS) =      1.57

****************************************************************************
  FLOW PROCESS FROM NODE      3.30 TO NODE      3.12 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   112.00  DOWNSTREAM(FEET) =   101.90
  FLOW LENGTH(FEET) =    95.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN   6.0 INCH PIPE IS   3.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  11.75
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.57
  PIPE TRAVEL TIME(MIN.) =   0.13    Tc(MIN.) =    8.88
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.12 =     335.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.88
  RAINFALL INTENSITY(INCH/HR) =   4.45
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       0.40
  TOTAL STREAM AREA(ACRES) =       0.40
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.57

****************************************************************************
  FLOW PROCESS FROM NODE      3.31 TO NODE      3.32 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  ELEVATION DATA: UPSTREAM(FEET) =    117.80  DOWNSTREAM(FEET) =    109.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.514
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.317
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
     LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  RESIDENTIAL
  "3-4 DWELLINGS/ACRE"       -        0.63      0.20     0.650     0    6.51
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
  SUBAREA RUNOFF(CFS) =      2.94
  TOTAL AREA(ACRES) =      0.63   PEAK FLOW RATE(CFS) =      2.94

****************************************************************************
```

```
 FLOW PROCESS FROM NODE      3.32 TO NODE      3.12 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   110.30  DOWNSTREAM(FEET) =   101.90
 FLOW LENGTH(FEET) =    30.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN   8.0 INCH PIPE IS   3.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  19.91
 GIVEN PIPE DIAMETER(INCH) =   8.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.94
 PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    6.54
 LONGEST FLOWPATH FROM NODE      3.31 TO NODE      3.12 =     230.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.54
 RAINFALL INTENSITY(INCH/HR) =   5.31
 AREA-AVERAGED Fm(INCH/HR) =  0.13
 AREA-AVERAGED Fp(INCH/HR) =  0.20
 AREA-AVERAGED Ap =  0.65
 EFFECTIVE STREAM AREA(ACRES) =       0.63
 TOTAL STREAM AREA(ACRES) =       0.63
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.94

****************************************************************************
 FLOW PROCESS FROM NODE      3.13 TO NODE      3.14 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   210.00
 ELEVATION DATA: UPSTREAM(FEET) =    111.00  DOWNSTREAM(FEET) =    109.80

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.826
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.201
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 RESIDENTIAL
 "3-4 DWELLINGS/ACRE"       -        0.28      0.20     0.650     0    9.83
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
 SUBAREA RUNOFF(CFS) =      1.03
 TOTAL AREA(ACRES) =      0.28   PEAK FLOW RATE(CFS) =      1.03

****************************************************************************
 FLOW PROCESS FROM NODE      3.14 TO NODE      3.12 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   109.80  DOWNSTREAM(FEET) =   101.90
 FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN   6.0 INCH PIPE IS   2.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  11.86
```

```
  ESTIMATED PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.03
  PIPE TRAVEL TIME(MIN.) =   0.06    Tc(MIN.) =    9.88
  LONGEST FLOWPATH FROM NODE      3.13 TO NODE      3.12 =     250.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.12 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.88
  RAINFALL INTENSITY(INCH/HR) =   4.19
  AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.65
  EFFECTIVE STREAM AREA(ACRES) =       0.28
  TOTAL STREAM AREA(ACRES) =       0.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.03

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        1.57    8.88    4.451  0.20( 0.13) 0.65       0.4       3.10
      2        2.94    6.54    5.306  0.20( 0.13) 0.65       0.6       3.31
      3        1.03    9.88    4.187  0.20( 0.13) 0.65       0.3       3.13

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  3 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        5.19    6.54    5.306  0.20( 0.13) 0.65       1.1       3.31
      2        5.01    8.88    4.451  0.20( 0.13) 0.65       1.3       3.10
      3        4.81    9.88    4.187  0.20( 0.13) 0.65       1.3       3.13

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       5.19    Tc(MIN.) =     6.54
  EFFECTIVE AREA(ACRES) =       1.11   AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
  TOTAL AREA(ACRES) =        1.3
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.12 =     335.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.12 TO NODE      3.15 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   101.90  DOWNSTREAM(FEET) =   100.70
  FLOW LENGTH(FEET) =   110.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   7.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.67
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.19
  PIPE TRAVEL TIME(MIN.) =   0.27    Tc(MIN.) =    6.81
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.15 =     445.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE      3.15 TO NODE      3.15 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.81
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.182
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 USER-DEFINED               -        0.18      0.20     0.650     -
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
 SUBAREA AREA(ACRES) =    0.18      SUBAREA RUNOFF(CFS) =    0.82
 EFFECTIVE AREA(ACRES) =      1.29   AREA-AVERAGED Fm(INCH/HR) =  0.13
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
 TOTAL AREA(ACRES) =        1.5       PEAK FLOW RATE(CFS) =       5.86

****************************************************************************
 FLOW PROCESS FROM NODE      3.15 TO NODE      3.15 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.81
 RAINFALL INTENSITY(INCH/HR) =   5.18
 AREA-AVERAGED Fm(INCH/HR) =  0.13
 AREA-AVERAGED Fp(INCH/HR) =  0.20
 AREA-AVERAGED Ap =  0.65
 EFFECTIVE STREAM AREA(ACRES) =       1.29
 TOTAL STREAM AREA(ACRES) =       1.49
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.86

****************************************************************************
 FLOW PROCESS FROM NODE      3.16 TO NODE      3.17 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
 ELEVATION DATA: UPSTREAM(FEET) =    110.50  DOWNSTREAM(FEET) =    107.30

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.843
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.780
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 RESIDENTIAL
 "3-4 DWELLINGS/ACRE"       -        0.19      0.20     0.650     0    7.84
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
 SUBAREA RUNOFF(CFS) =      0.80
 TOTAL AREA(ACRES) =      0.19   PEAK FLOW RATE(CFS) =      0.80

****************************************************************************
 FLOW PROCESS FROM NODE      3.17 TO NODE      3.17 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.84
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.780
```

```
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 USER-DEFINED               -        0.08      0.20     0.650     -
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.650
 SUBAREA AREA(ACRES) =    0.08      SUBAREA RUNOFF(CFS) =    0.33
 EFFECTIVE AREA(ACRES) =      0.27   AREA-AVERAGED Fm(INCH/HR) =  0.13
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
 TOTAL AREA(ACRES) =        0.3       PEAK FLOW RATE(CFS) =       1.13

****************************************************************************
 FLOW PROCESS FROM NODE      3.17 TO NODE      3.15 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   107.30  DOWNSTREAM(FEET) =   100.70
 FLOW LENGTH(FEET) =    20.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN  18.0 INCH PIPE IS   1.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  14.66
 GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.13
 PIPE TRAVEL TIME(MIN.) =   0.02    Tc(MIN.) =    7.87
 LONGEST FLOWPATH FROM NODE      3.16 TO NODE      3.15 =     220.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      3.15 TO NODE      3.15 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    7.87
 RAINFALL INTENSITY(INCH/HR) =   4.77
 AREA-AVERAGED Fm(INCH/HR) =  0.13
 AREA-AVERAGED Fp(INCH/HR) =  0.20
 AREA-AVERAGED Ap =  0.65
 EFFECTIVE STREAM AREA(ACRES) =       0.27
 TOTAL STREAM AREA(ACRES) =       0.27
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.13

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1        5.86    6.81    5.182  0.20( 0.13) 0.65       1.3       3.31
     1        5.58    9.16    4.373  0.20( 0.13) 0.65       1.5       3.10
     1        5.35   10.16    4.121  0.20( 0.13) 0.65       1.5       3.13
     2        1.13    7.87    4.773  0.20( 0.13) 0.65       0.3       3.16

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1        6.93    6.81    5.182  0.20( 0.13) 0.65       1.5       3.31
     2        6.87    7.87    4.773  0.20( 0.13) 0.65       1.6       3.16
     3        6.62    9.16    4.373  0.20( 0.13) 0.65       1.7       3.10
     4        6.32   10.16    4.121  0.20( 0.13) 0.65       1.8       3.13
```

```
  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       6.93    Tc(MIN.) =     6.81
  EFFECTIVE AREA(ACRES) =       1.52   AREA-AVERAGED Fm(INCH/HR) =  0.13
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.65
  TOTAL AREA(ACRES) =        1.8
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.15 =     445.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.15 TO NODE      3.18 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.70  DOWNSTREAM(FEET) =    99.67
  FLOW LENGTH(FEET) =    86.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   8.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.48
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.93
  PIPE TRAVEL TIME(MIN.) =   0.19    Tc(MIN.) =    7.00
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.18 =     531.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.18 TO NODE      3.18 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.00
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.100
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.19      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.19      SUBAREA RUNOFF(CFS) =    0.86
  EFFECTIVE AREA(ACRES) =      1.71   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.62
  TOTAL AREA(ACRES) =        2.0       PEAK FLOW RATE(CFS) =       7.67

****************************************************************************
  FLOW PROCESS FROM NODE      3.18 TO NODE      3.19 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    99.67  DOWNSTREAM(FEET) =    98.86
  FLOW LENGTH(FEET) =    62.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   8.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.95
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.67
  PIPE TRAVEL TIME(MIN.) =   0.13    Tc(MIN.) =    7.13
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.19 =     593.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.19 TO NODE      3.19 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    7.13
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.047
```

```
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.25      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.25      SUBAREA RUNOFF(CFS) =    1.12
  EFFECTIVE AREA(ACRES) =      1.96   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.59
  TOTAL AREA(ACRES) =        2.2       PEAK FLOW RATE(CFS) =       8.71

****************************************************************************
  FLOW PROCESS FROM NODE      3.19 TO NODE      3.20 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    98.66  DOWNSTREAM(FEET) =    97.79
  FLOW LENGTH(FEET) =    67.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   8.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.21
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       8.71
  PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =    7.27
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.20 =     660.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.20 TO NODE      3.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.27
  RAINFALL INTENSITY(INCH/HR) =   4.99
  AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.59
  EFFECTIVE STREAM AREA(ACRES) =       1.96
  TOTAL STREAM AREA(ACRES) =       2.20
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       8.71

****************************************************************************
  FLOW PROCESS FROM NODE      3.21 TO NODE      3.22 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   330.00
  ELEVATION DATA: UPSTREAM(FEET) =    107.60  DOWNSTREAM(FEET) =    101.60

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.162
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.673
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  CONDOMINIUMS               -        0.55      0.20     0.400     0    8.16
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA RUNOFF(CFS) =      2.27
  TOTAL AREA(ACRES) =      0.55   PEAK FLOW RATE(CFS) =      2.27
```

```
****************************************************************************
  FLOW PROCESS FROM NODE      3.22 TO NODE      3.20 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   101.60  DOWNSTREAM(FEET) =    97.99
  FLOW LENGTH(FEET) =    25.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   2.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  13.52
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.27
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    8.19
  LONGEST FLOWPATH FROM NODE      3.21 TO NODE      3.20 =     355.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.20 TO NODE      3.20 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.19
  RAINFALL INTENSITY(INCH/HR) =   4.66
  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20
  AREA-AVERAGED Ap =  0.40
  EFFECTIVE STREAM AREA(ACRES) =       0.55
  TOTAL STREAM AREA(ACRES) =       0.55
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.27

****************************************************************************
  FLOW PROCESS FROM NODE      3.23 TO NODE      3.24 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   205.00
  ELEVATION DATA: UPSTREAM(FEET) =    104.00  DOWNSTREAM(FEET) =    102.30

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.893
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.763
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  CONDOMINIUMS                -        0.33      0.20     0.400     0    7.89
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA RUNOFF(CFS) =      1.39
  TOTAL AREA(ACRES) =      0.33   PEAK FLOW RATE(CFS) =      1.39

****************************************************************************
  FLOW PROCESS FROM NODE      3.24 TO NODE      3.25 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   102.30  DOWNSTREAM(FEET) =    99.10
  FLOW LENGTH(FEET) =   236.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   3.8 INCHES
```

```
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.08
 GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       1.39
 PIPE TRAVEL TIME(MIN.) =   0.77    Tc(MIN.) =    8.67
 LONGEST FLOWPATH FROM NODE      3.23 TO NODE      3.25 =     441.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      3.25 TO NODE      3.25 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.67
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.514
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 USER-DEFINED               -        0.99      0.20     0.400     -
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
 SUBAREA AREA(ACRES) =    0.99      SUBAREA RUNOFF(CFS) =    3.95
 EFFECTIVE AREA(ACRES) =      1.32   AREA-AVERAGED Fm(INCH/HR) =  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.40
 TOTAL AREA(ACRES) =        1.3       PEAK FLOW RATE(CFS) =       5.27

****************************************************************************
 FLOW PROCESS FROM NODE      3.25 TO NODE      3.20 IS CODE =  41
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   101.00  DOWNSTREAM(FEET) =    97.99
 FLOW LENGTH(FEET) =    15.00   MANNING'S N =  0.011
 DEPTH OF FLOW IN  18.0 INCH PIPE IS   3.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  19.44
 GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.27
 PIPE TRAVEL TIME(MIN.) =   0.01    Tc(MIN.) =    8.68
 LONGEST FLOWPATH FROM NODE      3.23 TO NODE      3.20 =     456.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE      3.20 TO NODE      3.20 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
 TIME OF CONCENTRATION(MIN.) =    8.68
 RAINFALL INTENSITY(INCH/HR) =   4.51
 AREA-AVERAGED Fm(INCH/HR) =  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.20
 AREA-AVERAGED Ap =  0.40
 EFFECTIVE STREAM AREA(ACRES) =       1.32
 TOTAL STREAM AREA(ACRES) =       1.32
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.27

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1        8.71    7.27    4.993  0.20( 0.12) 0.59       2.0       3.31
     1        8.49    8.33    4.620  0.20( 0.12) 0.60       2.1       3.16
     1        8.14    9.63    4.251  0.20( 0.12) 0.60       2.2       3.10
```

1	7.77	10.63	4.015	0.20(0.12) 0.60	2.2	3.13
2	2.27	8.19	4.663	0.20(0.08) 0.40	0.6	3.21
3	5.27	8.68	4.510	0.20(0.08) 0.40	1.3	3.23

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 3 STREAMS.

** PEAK FLOW RATE TABLE **

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	15.76	7.27	4.993	0.20(0.10) 0.51		3.6	3.31
2	15.94	8.19	4.663	0.20(0.10) 0.51		3.9	3.21
3	15.92	8.33	4.620	0.20(0.10) 0.51		3.9	3.16
4	15.87	8.68	4.510	0.20(0.10) 0.50		4.0	3.23
5	15.17	9.63	4.251	0.20(0.10) 0.51		4.0	3.10
6	14.41	10.63	4.015	0.20(0.10) 0.51		4.1	3.13

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) = 15.94 Tc(MIN.) = 8.19
EFFECTIVE AREA(ACRES) = 3.86 AREA-AVERAGED Fm(INCH/HR) = 0.10
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.51
TOTAL AREA(ACRES) = 4.1
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.20 = 660.00 FEET.

****
FLOW PROCESS FROM NODE 3.20 TO NODE 3.26 IS CODE = 41

>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==========
ELEVATION DATA: UPSTREAM(FEET) = 97.79 DOWNSTREAM(FEET) = 97.00
FLOW LENGTH(FEET) = 96.00 MANNING'S N = 0.011
DEPTH OF FLOW IN 24.0 INCH PIPE IS 14.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 8.07
GIVEN PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 15.94
PIPE TRAVEL TIME(MIN.) = 0.20 Tc(MIN.) = 8.39
LONGEST FLOWPATH FROM NODE 3.10 TO NODE 3.26 = 756.00 FEET.

****
FLOW PROCESS FROM NODE 3.26 TO NODE 3.26 IS CODE = 81

>>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========
MAINLINE Tc(MIN.) = 8.39
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 4.599
SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
USER-DEFINED	-	0.35	0.20	0.400	-

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.20
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.400
SUBAREA AREA(ACRES) = 0.35 SUBAREA RUNOFF(CFS) = 1.42
EFFECTIVE AREA(ACRES) = 4.21 AREA-AVERAGED Fm(INCH/HR) = 0.10
AREA-AVERAGED Fp(INCH/HR) = 0.20 AREA-AVERAGED Ap = 0.50
TOTAL AREA(ACRES) = 4.4 PEAK FLOW RATE(CFS) = 17.04

****
FLOW PROCESS FROM NODE 3.26 TO NODE 3.27 IS CODE = 41

>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<

```
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    96.80  DOWNSTREAM(FEET) =    90.33
  FLOW LENGTH(FEET) =   140.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   9.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  15.65
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      17.04
  PIPE TRAVEL TIME(MIN.) =   0.15    Tc(MIN.) =    8.54
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      3.27 =     896.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      3.27 TO NODE      3.27 IS CODE =  10
----------------------------------------------------------------------------
  >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
==============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE      4.10 TO NODE      4.11 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   140.00
  ELEVATION DATA: UPSTREAM(FEET) =    113.50  DOWNSTREAM(FEET) =    112.70

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.165
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.488
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
        LAND USE           GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                -        0.20      0.20     0.030     0    6.16
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA RUNOFF(CFS) =      0.99
  TOTAL AREA(ACRES) =      0.20   PEAK FLOW RATE(CFS) =      0.99

****************************************************************************
  FLOW PROCESS FROM NODE      4.11 TO NODE      4.12 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   109.40  DOWNSTREAM(FEET) =   107.60
  FLOW LENGTH(FEET) =   296.00   MANNING'S N =  0.011
  ASSUME FULL-FLOWING PIPELINE
  PIPE-FLOW VELOCITY(FEET/SEC.) =   2.92
  (PIPE FLOW VELOCITY CORRESPONDING TO NORMAL-DEPTH FLOW
   AT DEPTH = 0.82 * DIAMETER)
  GIVEN PIPE DIAMETER(INCH) =   6.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       0.99
  PIPE TRAVEL TIME(MIN.) =   1.69    Tc(MIN.) =    7.85
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.12 =     436.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.12 TO NODE      4.12 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
  MAINLINE Tc(MIN.) =    7.85
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.777
  SUBAREA LOSS RATE DATA(AMC III):
```

```
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.42      0.20     0.030     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.030
  SUBAREA AREA(ACRES) =    0.42      SUBAREA RUNOFF(CFS) =    1.80
  EFFECTIVE AREA(ACRES) =      0.62   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.03
  TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.66

****************************************************************************
  FLOW PROCESS FROM NODE      4.12 TO NODE      4.13 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   107.60  DOWNSTREAM(FEET) =   106.80
  FLOW LENGTH(FEET) =   150.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   8.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.31
  GIVEN PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.66
  PIPE TRAVEL TIME(MIN.) =   0.58    Tc(MIN.) =    8.43
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.13 =     586.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.13 TO NODE      4.13 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    8.43
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.586
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.73      0.20     0.100     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.73      SUBAREA RUNOFF(CFS) =    3.00
  EFFECTIVE AREA(ACRES) =      1.35   AREA-AVERAGED Fm(INCH/HR) =  0.01
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.07
  TOTAL AREA(ACRES) =        1.4       PEAK FLOW RATE(CFS) =       5.56

****************************************************************************
  FLOW PROCESS FROM NODE      4.13 TO NODE      4.16 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   103.00  DOWNSTREAM(FEET) =   100.20
  FLOW LENGTH(FEET) =   145.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  18.0 INCH PIPE IS   7.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   8.53
  GIVEN PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.56
  PIPE TRAVEL TIME(MIN.) =   0.28    Tc(MIN.) =    8.71
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.16 =     731.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.16 TO NODE      4.16 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==============================================================================
  MAINLINE Tc(MIN.) =    8.71
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.500
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.33      0.20     0.200     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.200
  SUBAREA AREA(ACRES) =    0.33      SUBAREA RUNOFF(CFS) =    1.32
  EFFECTIVE AREA(ACRES) =      1.68   AREA-AVERAGED Fm(INCH/HR) =  0.02
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.09
  TOTAL AREA(ACRES) =        1.7       PEAK FLOW RATE(CFS) =       6.78

******************************************************************************
  FLOW PROCESS FROM NODE      4.16 TO NODE      4.17 IS CODE =  41
------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   100.20  DOWNSTREAM(FEET) =    97.40
  FLOW LENGTH(FEET) =   225.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   7.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.54
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.78
  PIPE TRAVEL TIME(MIN.) =   0.50    Tc(MIN.) =    9.21
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.17 =     956.00 FEET.

******************************************************************************
  FLOW PROCESS FROM NODE      4.17 TO NODE      4.17 IS CODE =  81
------------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==============================================================================
  MAINLINE Tc(MIN.) =    9.21
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.359
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.48      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.48      SUBAREA RUNOFF(CFS) =    1.85
  EFFECTIVE AREA(ACRES) =      2.16   AREA-AVERAGED Fm(INCH/HR) =  0.03
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.16
  TOTAL AREA(ACRES) =        2.2       PEAK FLOW RATE(CFS) =       8.41

******************************************************************************
  FLOW PROCESS FROM NODE      4.17 TO NODE      4.18 IS CODE =  41
------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    97.40  DOWNSTREAM(FEET) =    91.22
  FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS   4.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  19.68
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       8.41
  PIPE TRAVEL TIME(MIN.) =   0.03    Tc(MIN.) =    9.25
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.18 =     996.00 FEET.
```

```
****************************************************************************
  FLOW PROCESS FROM NODE      4.18 TO NODE      4.18 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN.) =    9.25
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.350
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  USER-DEFINED               -        0.40      0.20     0.400     -
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.20
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.400
  SUBAREA AREA(ACRES) =    0.40      SUBAREA RUNOFF(CFS) =    1.54
  EFFECTIVE AREA(ACRES) =      2.56   AREA-AVERAGED Fm(INCH/HR) =  0.04
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.20
  TOTAL AREA(ACRES) =        2.6       PEAK FLOW RATE(CFS) =       9.93

****************************************************************************
  FLOW PROCESS FROM NODE      4.18 TO NODE      4.19 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    91.22  DOWNSTREAM(FEET) =    90.33
  FLOW LENGTH(FEET) =   100.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  10.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.41
  GIVEN PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       9.93
  PIPE TRAVEL TIME(MIN.) =   0.22    Tc(MIN.) =    9.47
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.19 =    1096.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.19 TO NODE      4.19 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
============================================================================

  ** MAIN STREAM CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        9.93    9.47    4.291  0.20( 0.04) 0.20       2.6       4.10
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.19 =    1096.00 FEET.

  ** MEMORY BANK #  1 CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       16.94    7.62    4.861  0.20( 0.10) 0.50       3.9       3.31
      2       17.04    8.54    4.553  0.20( 0.10) 0.50       4.2       3.21
      3       17.03    8.67    4.513  0.20( 0.10) 0.50       4.2       3.16
      4       16.94    9.03    4.410  0.20( 0.10) 0.50       4.3       3.23
      5       16.21    9.98    4.164  0.20( 0.10) 0.50       4.4       3.10
      6       15.40   10.99    3.940  0.20( 0.10) 0.50       4.4       3.13
  LONGEST FLOWPATH FROM NODE      3.10 TO NODE      4.19 =     896.00 FEET.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       26.00    7.62    4.861  0.20( 0.08) 0.39       6.0       3.31
      2       26.55    8.54    4.553  0.20( 0.08) 0.39       6.5       3.21
      3       26.59    8.67    4.513  0.20( 0.08) 0.39       6.6       3.16
```

```
      4       26.67    9.03    4.410  0.20( 0.08) 0.39       6.8       3.23
      5       26.53    9.47    4.291  0.20( 0.08) 0.39       6.9       4.10
      6       25.85    9.98    4.164  0.20( 0.08) 0.39       7.0       3.10
      7       24.52   10.99    3.940  0.20( 0.08) 0.39       7.0       3.13
    TOTAL AREA(ACRES) =         7.0

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       26.67  Tc(MIN.) =    9.028
  EFFECTIVE AREA(ACRES) =      6.76  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap =  0.39
  TOTAL AREA(ACRES) =        7.0
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.19 =    1096.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.19 TO NODE      4.20 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    90.33  DOWNSTREAM(FEET) =    89.93
  FLOW LENGTH(FEET) =    40.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  36.0 INCH PIPE IS  14.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   9.88
  GIVEN PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      26.67
  PIPE TRAVEL TIME(MIN.) =   0.07    Tc(MIN.) =    9.10
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.20 =    1136.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      4.20 TO NODE      4.21 IS CODE =  41
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING USER-SPECIFIED PIPESIZE (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =    89.93  DOWNSTREAM(FEET) =    83.30
  FLOW LENGTH(FEET) =   109.00   MANNING'S N =  0.011
  DEPTH OF FLOW IN  36.0 INCH PIPE IS   9.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =  18.93
  GIVEN PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      26.67
  PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =    9.19
  LONGEST FLOWPATH FROM NODE      4.10 TO NODE      4.21 =    1245.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        7.0  TC(MIN.) =      9.19
  EFFECTIVE AREA(ACRES) =      6.76  AREA-AVERAGED Fm(INCH/HR)=  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.20  AREA-AVERAGED Ap = 0.389
  PEAK FLOW RATE(CFS)   =      26.67

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       26.00    7.78    4.801  0.20( 0.08) 0.39       6.0       3.31
      2       26.55    8.70    4.504  0.20( 0.08) 0.39       6.5       3.21
      3       26.59    8.84    4.465  0.20( 0.08) 0.39       6.6       3.16
      4       26.67    9.19    4.365  0.20( 0.08) 0.39       6.8       3.23
      5       26.53    9.63    4.249  0.20( 0.08) 0.39       6.9       4.10
      6       25.85   10.14    4.126  0.20( 0.08) 0.39       7.0       3.10
      7       24.52   11.16    3.906  0.20( 0.08) 0.39       7.0       3.13
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

APPENDIX 3

HYDRAULIC CALCULATIONS

PIPE CAPACITY TABLE

* Based on Manning's equation, flowing full

n = 0.011

From Hydrology, Q25 per acre (based on Sub-areas A1-A3)= 3.15 cfs/ac.

Allowable Capture Area is the maximum area that the pipe can handle given the pipe size, slope and assume full flow.

PIPE SIZE (in)	PIPE SIZE (ft)	Area (sf)	Hyd. Radius	Slope, s	Q (cfs)	Allowable Capture Area (ac)	Allowable Capture Area (sf)
4	0.333	0.087	0.083	0.005	0.16	0.05	2199
4	0.333	0.087	0.083	0.01	0.22	0.07	3110
4	0.333	0.087	0.083	0.02	0.32	0.10	4399
4	0.333	0.087	0.083	0.03	0.39	0.12	5387
6	0.500	0.196	0.125	0.005	0.47	0.15	6484
6	0.500	0.196	0.125	0.01	0.66	0.21	9170
6	0.500	0.196	0.125	0.02	0.94	0.30	12968
6	0.500	0.196	0.125	0.03	1.15	0.36	15883

ROOF LOCATION	Largest Tributary Roof Area (sf) to downdrain	Min. pipe size (in)	Min. pipe slope
5 Clubhouse Dr.	780	4	0.005
6 Clubhouse Dr	835	4	0.005
Tennis Clubhouse	2238	4	0.01

APPENDIX C – Water Quality Management Plan

Water Quality Management Plan (WQMP)

Project Name:

Newport Beach Country Club

Former Address: 1602 East Coast Highway

New Address: 5, 6, 7, 8, 9, 10, & 11 Clubhouse Drive

Newport Beach, CA 92660

Prepared for:

Golf Realty Fund

One Upper Newport Plaza

Newport Beach, California 92660

(949) 251-2025

Prepared by:

Land Strategies

Engineer:Roy Roberson, P.E. **Registration No.: 44160**

9241 Irvine Blvd, Suite 100

Irvine, CA 92618

(949) 580-3000

Prepared: 6/30/2010
1st Revision: 11/14/2018
2nd Revision: 07/10/2019
3rd Revision: 11/30/2021

Project Owner's Certification			
Permit/Application No.		Grading Permit No.	
Tract/Parcel Map No.	Parcel 2, PM No. 94-102	Building Permit No.	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract)			APN 442-011-35, 442-011-62, 442-011-63

This Water Quality Management Plan (WQMP) has been prepared for Golf Realty Fund by Land Strategies. The WQMP is intended to comply with the requirements of the local NPDES Stormwater 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 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: Robert O Hill			
Title	Partner		
Company	Golf Realty Fund		
Address	One Upper Newport Plaza, Newport Beach, CA 92660		
Email	roh@golfrealtyfund.com		
Telephone #	(949) 251-2025		
Signature		Date	

Contents

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Attachments

Section I Discretionary Permit(s) and Water Quality Conditions

Provide discretionary permit and water quality information. *Refer to Section 2.1 in the Technical Guidance Document (TGD) available from the Orange County Stormwater Program (ocwatersheds.com).*

Project Infomation			
Permit/Application No.		Tract/Parcel Map No.	Parcel 2, PM No. 94-102
Additional Information/ Comments:	This project is the redevelopment of portions of existing paved tennis courts and parking lots into less intense impervious land cover (residential and resort uses).		
Water Quality Conditions			
Water Quality Conditions (list verbatim)			
Watershed-Based Plan Conditions			
Provide applicable conditions from watershed - based plans including WIHMPs and TMDLS.	The Lower Newport Bay has TMDLs for the following pollutants; Metals, Toxics, Nutrients, Pathogens (Fecal Coliform Bacteria), Pesticides/Priority Organics, and Sediment.		

Section II Project Description

II.1 Project Description

Provide a detailed project description including:

- Project areas;
- Land uses;
- Land cover;
- Design elements;
- A general description not broken down by drainage management areas (DMAs).

Include attributes relevant to determining applicable source controls. *Refer to Section 2.2 in the TGD for information that must be included in the project description.*

Description of Proposed Project		
Development Category (Verbatim from WQMP):	6. Parking lots 5,000 square feet or more including associated drive aisle, and potentially exposed to urban stormwater runoff. A parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. 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.	
Project Area (ft2): 303,980	Number of Dwelling Units: 27 Bungalows, 5 Villas, 1 clubhouse	SIC Code: 1799, 7997
Narrative Project Description:	The Newport Beach Country Club (NBCC) is located within the 145 acre (approximate area) Newport Beach Country Club Planned Community (NBCCPC) located within the City of Newport Beach, California. The NBCCPC includes the existing Tennis Club and Golf Club known as Newport Beach Country Club. It is generally bordered by Pacific Coast Highway to the south, Jamboree Road to the west, Santa Barbara Avenue and Newport Center Drive to the north, and Corporate Plaza West to the east and south. The existing Tennis Club and the surrounding tennis courts will be improved and replaced with a new tennis clubhouse, a center court, 27	

bungalows, and 5 semi-custom villas. The existing Golf Club will be improved with a replaced with a new golf clubhouse, parking lot, and a new pool.

The Tennis Clubhouse & Center Court:

The new Tennis Clubhouse will contain state-of-the-art locker rooms with steam rooms. 6 of the existing tennis courts will remain, and the addition of the new center tennis stadium court will result in a total of 7 tennis courts. A new pool will also be included as part of the recreational improvements. The final plans will specify California materials and the use of California artisans.

The Bungalows:

The Bungalows will be located on a portion of the existing tennis courts and will consist of 27 guest rental units, patterned after Casa Palmero in Pebble Beach, California and Rancho Valencia Tennis Club in Rancho Santa Fe, California. The Bungalows will be rented on a short term basis to members of The Tennis Club and The Golf Club and their respective guests and to tennis players taking tennis clinics, golfers taking golf clinics and as a venue for association meetings and/or educational retreats. In addition, there will be a reciprocal arrangement with other tennis, golf and beach clubs allowing their members to stay at The Bungalows. Accommodations will also be provided to tour pros and celebrities participating in the Toshiba Classic at The Golf Club, or the Davis Cup or other events at The Tennis Club. Ancillary uses include a concierge office and guest center, swimming pool, fitness center, spa (massage and treatment rooms), and a small bar serving juices, smoothies, etc.

The Villas:

The Villas consist of 5 semi-custom homes located on a portion of the existing tennis courts and are adjacent to The Tennis Club and the 9th green. The Villa homes have a classical California Mediterranean style reminiscent of the Wallace Neff homes built in the West Side areas of Los Angeles, San Marino, and Pasadena in the 1920s, '30s and '40s. Although The Villa homes are all very similar in materials and design theme, each will be unique in some way from the other, and each will have different interior finishes and detailing and, to an extent, be customized to the buyer's specifications.

Parking:

Consistent with the development standards contained in the NBCCPC, the following parking is provided within the PCD.

Tennis Clubhouse Parking: Consists of 68 parking stalls.

<table>
<tr><td></td><td colspan="4">Bungalow Parking: 41 parking stalls for the 27 short-term rental units.

Weekend & Holiday Parking: Approximately 556 stalls within Corporate Plaza West are available on weekends and holidays through a recorded parking easement, with 188 of these parking stalls available after office business hours.

The Villas Parking: The Villas and the additional Golf Bungalow adjacent to the West Villas have access streets with covered and uncovered parking stalls.</td></tr>
<tr><td rowspan="2">Project Area</td><td colspan="2">Pervious</td><td colspan="2">Impervious</td></tr>
<tr><td>Area (acres)</td><td>Percentage</td><td>Area (acres)</td><td>Percentage</td></tr>
<tr><td>Pre-Project Conditions</td><td>1.03</td><td>14.8%</td><td>6.00</td><td>85.2%</td></tr>
<tr><td>Post-Project Conditions</td><td>1.75</td><td>25.1%</td><td>5.23</td><td>74.9%</td></tr>
<tr><td>Drainage Patterns/Connections</td><td colspan="4">The proposed drainage pattern will bisect the site into two halves, the northwest drainage area, Catchment “A”, and the southeast drainage area, Catchment “B”. A proposed 30” RCP storm drain system will convey Catchment Area “A” southerly into an existing 69” RCP storm drain system owned by the City of Newport Beach. Catchment Area “B” is collected by a proposed 24” RCP that runs westerly into the aforementioned 30” RCP.</td></tr>
</table>

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. *Refer to Section 2.2.2 and Table 2.1 in the TGD for guidance.*

Pollutants of Concern			
Pollutant	Circle One: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
Suspended-Solid/ Sediment	E		
Nutrients	E		
Heavy Metals	E		
Pathogens (Bacteria/Virus)	E		
Pesticides	E		
Oil and Grease	E		
Toxic Organic Compounds	E		
Trash and Debris	E		

II.3 Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are determined to be potentially susceptible to hydromodification impacts. *Refer to Section 2.2.3.1 in the TGD for* NOC.

☒ No – Show map

☐ Yes – Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the TGD.*

The conveyance of the on-site storm water runoff is through pipe networks, there are no natural channels. The project discharges from the pipes directly into the Pacific Ocean and therefore has no potential to have Hydrologic Conditions of Concern (HCOC) per Orange County Model WQMP (dated May 19, 2011).

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 stream habitat areas will be affected.

Additional references include: Attachment B (Exhibits/Maps) and Attachment C (TGD Reference Maps)

II.4 Post Development Drainage Characteristics

Describe post development drainage characteristics. *Refer to Section 2.2.4 in the TGD.*

The addition of two proposed storm drain lines will connect to an existing 69" RCP storm drain system located south of the site. This existing storm drain system is conveyed directly into the Pacific Ocean at Newport Bay, approximately 5,450 feet directly southwest of the site.

Refer to Attachment B for reference maps.

II.5 Property Ownership/Management

Describe property ownership/management. *Refer to Section 2.2.5 in the TGD.*

Golf Realty Fund currently owns the property. After development, a homeowners or property owners association will be established to maintain the stormwater facilities.

Section III Site Description

III.1 Physical Setting

Fill out table with relevant information. *Refer to Section 2.3.1 in the TGD.*

Planning Area/ Community Name	Newport Beach Country Club
Location/Address	5, 6, 7, 8, 9, 10 & 11 Clubhouse Drive
	Newport Beach, CA 92660
Land Use	Mixed Use Horizontal 3, Parks and Recreation
Zoning	Planned Community
Acreage	6.98
Predominant Soil Type	Type D

III.2 Site Characteristics

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. Refer to Section 2.3.2 in the TGD.

Precipitation Zone	0.7 in/hr of the 85th Percentile Rainfall Zone (Figure XVI.1 Orange County Rainfall Zones Map of the TGD)
Topography	Topography at the site is relatively flat-lying, with up to 13 feet of relief across the entire site. Elevation ranges from 118 feet MSL at the northeast corner to 100 feet MSL at the southwest corner.
Drainage Patterns/Connections	The northern part of the site consisting of the tennis courts and club buildings sheet flows southerly onto the parking lot at approximately 0.7% slope. From the parking lot, the drainage flows west and southwest off-site at about a 1.6% slope.
Soil Type, Geology, and Infiltration Properties	Due to the Type D soils onsite infiltration was not evaluated on this site.

Site Characteristics (continued)	
Hydrogeologic (Groundwater) Conditions	Groundwater was not encountered during subsurface investigation on the site. However groundwater was encountered at adjacent property on the southwest at an elevation of approximately 79 feet MSL (up to 21 feet of on-site finished grade), and on the adjacent property on the east at an elevation of approximately 96 feet (up to 4 feet of on-site finished grade).
Geotechnical Conditions (relevant to infiltration)	No significant slopes exist on site. Test for corrosive potential (pH, minimum resistivity, soluble chlorides, and soluble sulfates) of the soils for both ferrous metals and concrete resulted in negligible sulfate exposure to concrete, but corrosive to ferrous metals. Property site is not located within a mapped liquefaction hazard zone on the Seismic Hazard Zone Map for the Newport Beach Quadrangle (CGS 1997). Moisture test of the uppermost 5 feet of the soil resulted in a slightly below optimum moisture level.
Off-Site Drainage	Off-site drainage predominately flows south to southwest. An existing golf course residing to the north and west of the site drains southwesterly to Pacific Coast Highway. Drainage from the single family homes at the northeast adjacent lot runs southerly onto Granville Drive where and exits east onto Newport Center Drive. Drainage from the commercial buildings and parking lots on the south side sheet flows southwesterly towards Pacific Coast Highway.
Utility and Infrastructure Information	Two existing 69″ RCP storm drain systems currently lies south of the site, at approximately 100 feet away. This pipe drains westerly and then southerly into the Pacific Ocean at Balboa Harbor.

III.3 Watershed Description

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the TGD.*

Receiving Waters	Lower Newport Bay
303(d) Listed Impairments	Chloride, Copper, DDT (dichlorodiphenyltrichloroethane), Indicator bacteria, Nutrients, PCBs (polychlorinated biphenlys), Pesticides, Sediment toxicity, and Dieldrin
Applicable TMDLs	The Lower Newport Bay has TMDLs for the following pollutants; Metals, Toxics, Nutrients, Pathogens (Fecal Coliform Bacteria), Pesticides/Priority Organics, and Sediment.
Pollutants of Concern for the Project	Nutrients, Metals (Copper), Pathogens, Pesticides, Toxic Organic Compounds
Environmentally Sensitive and Special Biological Significant Areas	

Section IV Best Management Practices (BMPs)

IV. 1 Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. The local Permittee planning or NPDES staff should be consulted regarding the existence of an approved WIHMP or equivalent.
- Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
- Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
- Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-*3.2.2 *of the Model WQMP.*
- Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

(NOC Permit Area only) 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 ☒
If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities.	TBD	

Project Performance Criteria (continued)

If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP)	No HCOC - Discharges of storm water runoff from the project are in concrete-lined pipes all the way from the point of discharge to the ocean waters.
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	BIO-7 Proprietary Biotreatment: Modular Wetlands consisting of Stormwater Planter Boxes with Underdrains/Constructed Wetlands
List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)	N/A
Calculate LID design storm capture volume for Project.	**Newport Beach Country Club DCV Summary**

Drainage Area	d ,in	TDA (sf)	TDA (acre)	Imp Area (acre)	% Imp	C	DCV (cf)
Existing	0.75	303,980	6.98	5.81	0.83	0.77	14,721
Proposed	0.75	303,980	6.98	5.13	0.75	0.71	13,537

d = Precipitation Depth
C = (0.75 x Imp Area) + 0.15
DCV = (d/12) x (TDA) x C

IV.2. SITE DESIGN AND DRAINAGE PLAN

Describe site design and drainage plan including

- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP plot plan.
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs (unless not required by local jurisdiction).

Refer to Section 2.4.2 in the TGD.

On-site drainage pattern is separated by two main catchment areas covering a total of 6.98 acres, Catchment Area "A" and Catchment Area "B".

Catchment Area "A" is at the northwestern half of the site, collects approximately 4.07 acres of runoff, or 58% of the site. This area consists of 5 semi-custom homes and 27 rental bungalows. Access to this residence is via a 36-foot wide road that runs northeasterly onto the site, called Villas Street. Located on Villas Street are 7 catch basins that collect surface runoff from the street as well as the area drains for the bungalows and custom homes. Stormwater runoff from the buildings and its neighboring landscape is collected from the surrounding drainage inlets where it is connected to the back of the catch basins. A proposed 30" Storm Drain along the center of Villas Street will convey the collection of the stormwater southerly into an existing 69" RCP storm drain system. Prior to discharging into the 69" RCP runoff will be conveyed into the proprietary biotreatment BMP located near the south end of the site.

Catchment Area "B" is on the southeastern half and collects 2.91 acres of runoff, or 42% of the site. This catchment area consists of the tennis courts, the swimming pool, the Golf Club House, and two parking lots. Most of this catchment area is impervious hardscape. Drainage pattern sheet flows southerly from the northeasterly tennis courts and collected by grate inlets and catch basins. Overland flow from the southwest parking lot as well as the pool and Club House stormwater runoff is conveyed to a proposed 24" storm drain system that connects to the proposed 30" Storm Drain from Catchment Area "A".

IV.3 LID BMP SELECTION AND PROJECT CONFORMANCE ANALYSIS

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. *Refer to Section 2.4.2.3 in the TGD for selecting LID BMPs and Section 2.4.3 in the TGD for conducting conformance analysis with project performance criteria.*

IV.3.1 Hydrologic Source Controls

If required HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	☐
Impervious area dispersion (e.g. roof top disconnection)	☐
Street trees (canopy interception)	☒
Residential rain barrels (not actively managed)	☐
Green roofs/Brown roofs	☐
Blue roofs	☐
Impervious area reduction (e.g. permeable pavers, site design)	☒
Other:	☐
Other:	☐
Other:	☐

Onsite retention for this site is not feasible and the LID DCV is being met through biotreatment/biofiltration BMPs. Street trees and impervious reduction is being implemented in the project.

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. If design volume cannot be met state why BMPs cannot be met

Name	Included?
Bioretention without underdrains	☐
Rain gardens	☐
Porous landscaping	☐
Infiltration planters	☐
Retention swales	☐
Infiltration trenches	☐
Infiltration basins	☐
Drywells	☐
Subsurface infiltration galleries	☐
French drains	☐
Permeable asphalt	☐
Permeable concrete	☐
Permeable concrete pavers	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Strom Capture Volume can be met with infiltration BMPs. If not document how much can be met with infiltration and document why it is not feasible to meet the full volume with infiltration BMPs.

This project site cannot have infiltration BMPs due to Hydrologic Soil Type "D" conditions as stated in the TGD Section VII.2.1, see excerpt below.

"This method uses regionally mapped data coupled with all applicable data available through other site investigations to identify locations not potentially feasible for infiltration as a result of low infiltration rate or high groundwater table.

Via this method, areas of a project identified as having D soils or identified as having depth to first groundwater less than 5 feet are considered infeasible for infiltration if available data confirm these determinations." - TGD Section VII.2.1

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration, rainwater harvesting BMPs.

Name	Included?
All HSCs; *See Section IV.3.1*	☐
Surface-based infiltration BMPs	☐
Biotreatment BMPs	☐
Above-ground cisterns and basins	☐
Underground detention	☐
Other:	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Strom Capture Volume can be met with evapotranspiration, rainwater harvesting BMPs in combination with infiltration BMPs. If not document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with either of these BMPs categories.

Evapotranspiration and rainwater harvesting BMPs are not used due to the geotechnical recommendations to avoid infiltrating water near the buildings to prevent expansive heave and water intrusion due to the low percolation rates of the underlying soils.

IV.3.4 Biotreatment BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention with underdrains	☐
Stormwater planter boxes with underdrains	☐
Rain gardens with underdrains	☐
Constructed wetlands	☐
Vegetated swales	☐
Vegetated filter strips	☐
Proprietary vegetated biotreatment systems	☒
Wet extended detention basin	☐
Dry extended detention basins	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Strom Capture Volume can be met with infiltration, evapotranspiration, rainwater harvesting and/or biotreatment BMPs. If not document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with either of these BMPs categories.

The LID DCV has been met with the proposed biotreatment BMP Modular Wetlands. Refer to Attachment D for the calculations.

Bioretention BMPs are not recommended by the geotechnical engineer.

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. See Section 5 TGD. Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval.

Hydromodification Control BMPs	
BMP Name	**BMP Description**
N/A	N/A

IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. *Refer to Section 7.II-2.4.3.2 of the Model WQMP.*

Regional/Sub-Regional LID BMPs

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. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.

Treatment Control BMPs	
BMP Name	**BMP Description**

IV.3.8 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
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)	☒	☐	
N6	Local Industrial Permit Compliance	☒	☐	
N7	Spill Contingency Plan	☒	☐	
N8	Underground Storage Tank Compliance	☒	☐	
N9	Hazardous Materials Disclosure Compliance	☒	☐	
N10	Uniform Fire Code Implementation	☒	☐	
N11	Common Area Litter Control	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☐	☒	
N14	Common Area Catch Basin Inspection	☒	☐	
N15	Street Sweeping Private Streets and Parking Lots	☒	☐	
N16	Retail Gasoline Outlets	☐	☒	

IV.3.9 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if Structural source controls were not used.

Structural Source Control BMPs				
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
S1	Provide storm drain system stenciling and signage	☒	☐	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☒	☐	
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☒	☐	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☒	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☒	Not anticipated on this project.
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☒	☐	
S6	Dock areas	☐	☒	Not anticipated on this project.
S7	Maintenance bays	☐	☒	Not anticipated on this project.
S8	Vehicle wash areas	☒	☐	
S9	Outdoor processing areas	☐	☒	Not anticipated on this project.
S10	Equipment wash areas	☐	☒	Not anticipated on this project.
S11	Fueling areas	☐	☒	Not anticipated on this project.
S12	Hillside landscaping	☐	☒	Not anticipated on this project.
S13	Wash water control for food preparation areas	☒	☐	
S14	Community car wash racks	☐	☒	Not anticipated on this project.

IV.4 ALTERNATIVE COMPLIANCE PLAN (IF APPLICABLE)

IV.4.1 Water Quality Credits

Determine if water quality credits are applicable for the project. *Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the TGD for calculation methods for applying water quality credits.*

<table>
<tr><th colspan="5">Description of Proposed Project</th></tr>
<tr><td colspan="5">Project Types that Qualify for Water Quality Credits (Select all that apply):</td></tr>
<tr><td colspan="2">☒Redevelopment projects that reduce the overall impervious footprint of the project site.</td><td colspan="2">☐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 WQ if not redeveloped.</td><td>☐ 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).</td></tr>
<tr><td colspan="2">☒ 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).</td><td colspan="2">☐ 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</td><td>☐ 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).</td></tr>
<tr><td>☒Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.</td><td>☐ Developments in a city center area.</td><td>☐ Developments in historic districts or historic preservation areas.</td><td>☐ 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.</td><td>☐In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.</td></tr>
<tr><td>Calculation of Water Quality Credits
(if applicable)</td><td colspan="4">Pre-Construction Design Capture Volume: 14,721 cf
Post-Construction Design Capture Volume: 13,324 cf
Water Quality Credit: 1,397 cf
For full calculations, see Attachment D</td></tr>
</table>

IV.4.2 Alternative Compliance Plan Information

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. *Refer to Section 7.II 3.0 in the WQMP.*

N/A

Section V Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. *Refer to Section 7.II 4.0 in the Model WQMP.*

BMP Inspection/Maintenance			
BMP	**Reponsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**
Storm Drain System	Common Area Ownership Association	Inspect and clean as needed. Remove debris and trash annually and prior to rainy season.	Annually and prior to rainy season. Increase as needed.
Catch Basins and Inlets	Common Area Ownership Association	Inspect and clean as needed. Remove debris and trash annually and prior to rainy season.	Annually and prior to rainy season. Increase as needed.
Proprietary Biotreatment	Common Area Ownership Association	Ensure vegetation is healthy and inspect for clogs. Ensure 48 draw down time. See maintenance fact sheet for additional information	Vegetation inspection to occur weekly. Draw down time and pipe network inspected after every major storm event.
Streets and Common Areas	Common Area Ownership Association	Mechanical Street Sweeping and ongoing litter control	Weekly

BMP Inspection/Maintenance			
BMP	**Reponsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**
Landscaped Areas	Common Area Ownership Association	Trim vegetation, replant bare spots, maintain irrigation systems, remove trash and debris and control erosion.	Weekly
Property Owner and Employee Education	Common Area Ownership Association	Educate employees annually and property owners during change of ownership.	Annually and As Needed
Storm Drain Stencilling	Common Area Ownership Association	Inspect Annually and replace as needed.	Annual inspection.

Section VI Site Plan and Drainage Plan

VI.1 SITE PLAN AND DRAINAGE PLAN

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Drainage connections
- BMP details

VI.2 ELECTRONIC DATA SUBMITTAL <optional – delete if not used>

The minimum requirement is to provide submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open.

If the local jurisdiction requires specialized electronic document formats (CAD, GIS) to be submitted, this section will be used to describe the contents (e.g., layering, nomenclature, georeferencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. For the copy submitted to the Permittee, only attach the educational materials specifically applicable to the project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material (http://www.ocwatersheds.com)	**Check If Applicable**	**Business Material (http://www.ocwatersheds.com)**	**Check If Applicable**
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 Material**	**Check If Attached**
Proper Disposal of Household Hazardous Waste	☒		
Recycle at Your Local Used Oil Collection Center (North County)	☒		☐
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Responsible Pest Control	☒		☐
Sewer Spill	☒		☐
Tips for the Home Improvement Projects	☒		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☒		☐
Tips for Pet Care	☒		☐
Tips for Pool Maintenance	☒		☐
Tips for Residential Pool, Landscape and Hardscape Drains	☒		☐
Tips for Projects Using Paint	☒		☐

Attachment A - Educational Materials

The Ocean Begins at Your Front Door

Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.

Did You Know?

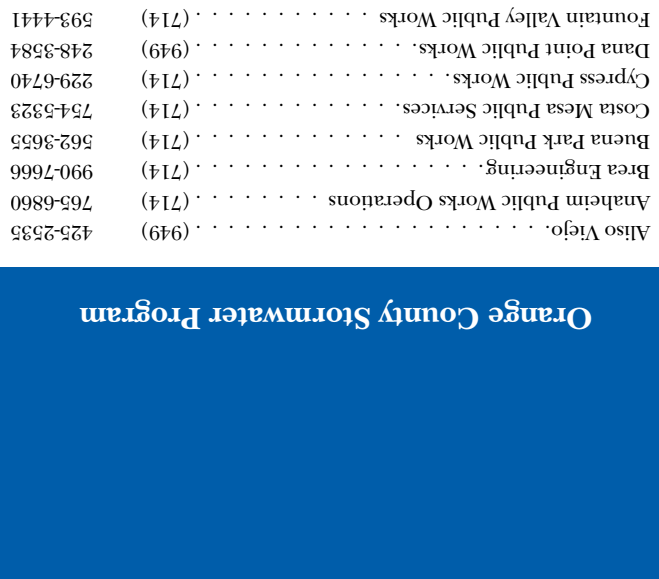
- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact, the largest source of water pollution comes from city streets, neighborhoods, construction sites and parking lots. This type of pollution 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.

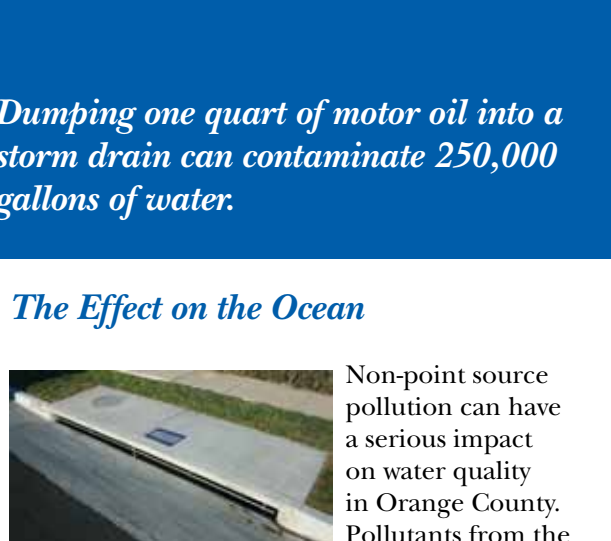


The Effect on the Ocean

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.



For More Information

Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.

Orange County Stormwater Program

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

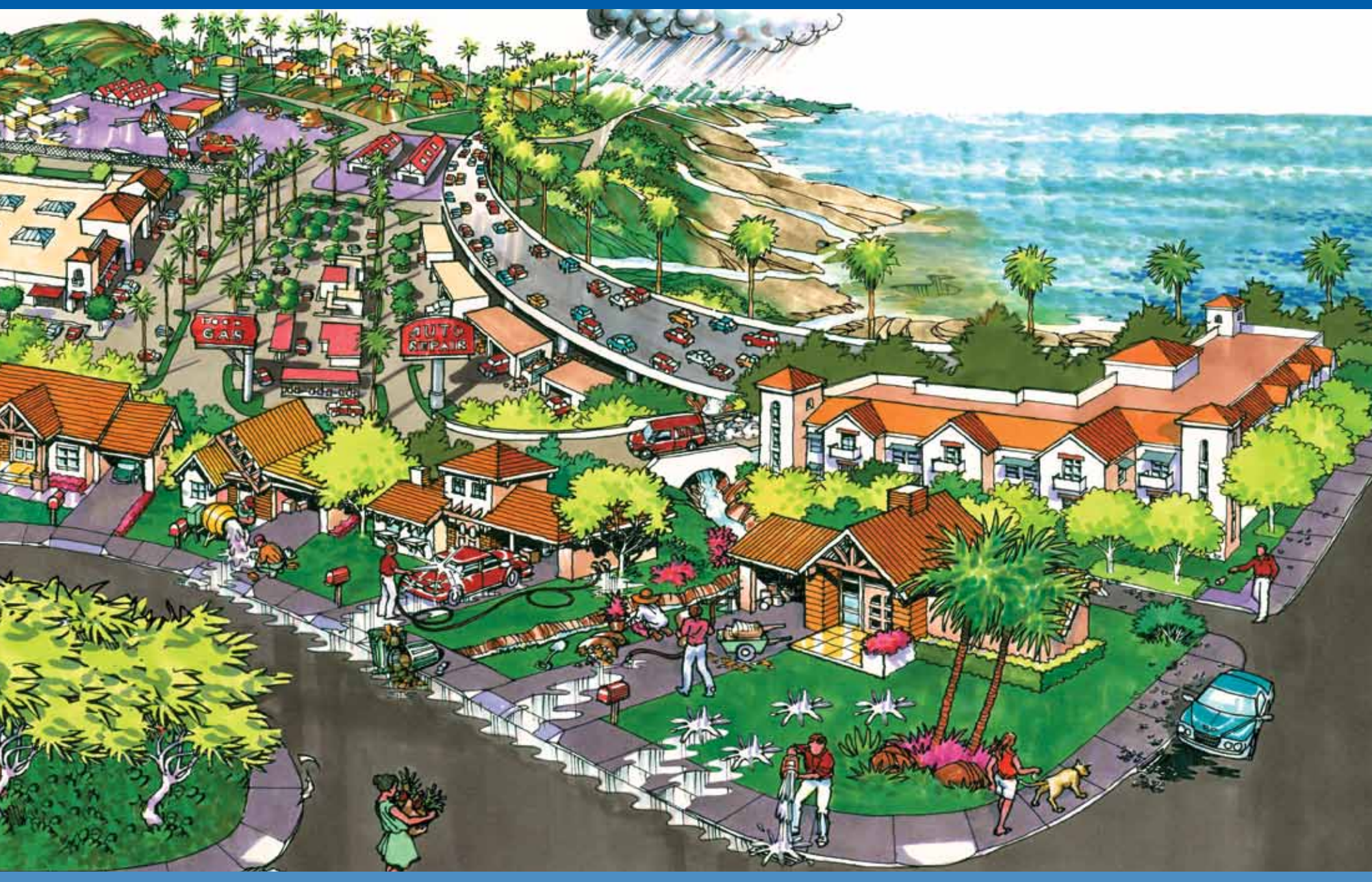
Aliso Viejo	(949)	425-2535
Anaheim Public Works Operations	(714)	765-6860
Brea Engineering	(714)	990-7666
Buena Park Public Works	(714)	562-3655
Costa Mesa Public Services	(714)	754-5323
Cypress Public Works	(714)	229-6740
Dana Point Public Works	(949)	248-3584
Fountain Valley Public Works	(714)	593-4441
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

Printed on Recycled Paper

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

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, if we are not careful, our daily activities can lead directly to water pollution problems. Water that drains through your watershed can pick up pollutants which are then transported to our waterways and beautiful ocean.

You can prevent water pollution by taking personal action and by working with members of your watershed community to prevent urban runoff from entering your waterway.

For more information, please call the **Orange County Stormwater Program** at **1.877.89.SPILL** or visit **www.ocwatersheds.com**

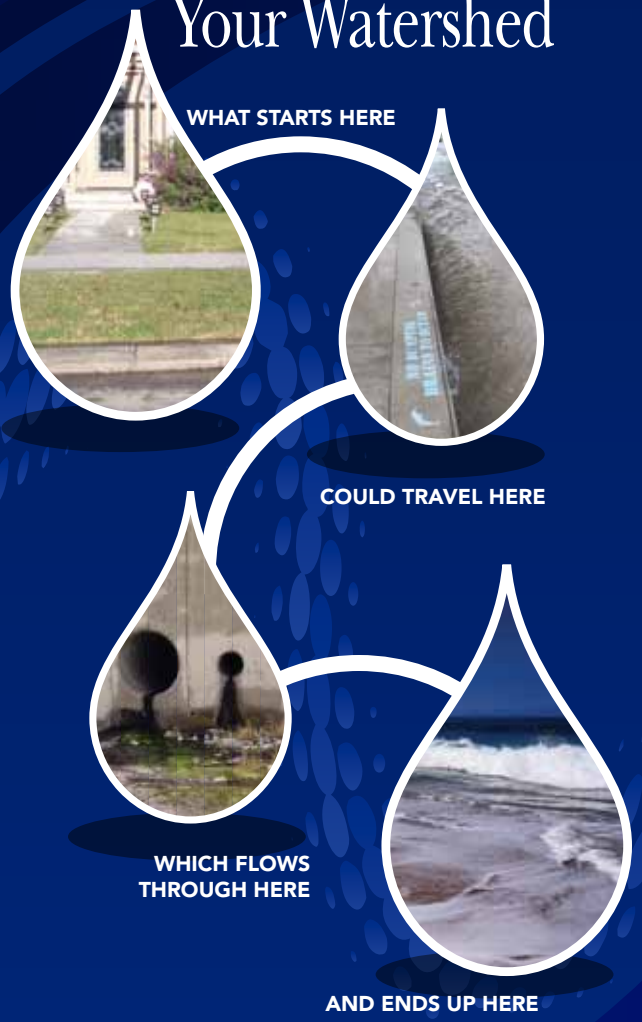
To report a spill, call the **Orange County 24-Hour Water Pollution Problem Reporting Hotline** at **1.877.89.SPILL**.

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help protect your watershed. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

Printed on Recycled Paper

Help Prevent Ocean Pollution: Tips For Protecting Your Watershed



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Protecting Your Watershed

My Watershed. Our Ocean.

Water + shed, *noun: A region of land within which water flows down into a specified water body, such as a river, lake, sea, or ocean; a drainage basin or catchment basin.*

Orange County is comprised of 11 major watersheds into which most of our water flows, connecting all of Orange County to the Pacific Ocean.

As water from rain (stormwater) or sprinklers and hoses (urban runoff) runs down your driveway and into your neighborhood streets, sidewalks and gutters, it flows into storm drains that lead to waterways within your watershed. The waterways from other cities merge as they make their way through our watersheds until all the runoff water in Orange County meets at the Pacific Ocean. The water that reaches our ocean is not pure. As it flows through the watershed, it picks up pollutants such as litter, cigarette butts, fertilizer, pesticides, pet waste, motor oil and lawn clippings. Unlike water that enters the sewer (from sinks and toilets), water that enters the storm drain is not treated before it flows, ultimately, to the ocean.

Water quality can be improved by "Adopting Your Watershed." Through this effort, we are challenging citizens and organizations to join the Orange County Stormwater Program and others who are working to protect and restore our creeks, rivers, bays and ocean.

There are many opportunities to get involved:

- Appreciate your watershed - explore the creeks, trails and ocean and make observations about its conditions. If you see anything abnormal (such as dead fish, oil spills, leaking barrels, and other pollution) contact the Orange County 24-hour water pollution problem reporting hotline at 1.877.89.SPILL to report the problem.
- Research your watershed. Learn about what watershed you live in by visiting www.ocwatersheds.com.
- Find a watershed organization in your community and volunteer to help. If there are no active groups, consider starting your own.
- Visit EPA's Adopt Your Watershed's Catalog of Watershed Groups at www.epa.gov/adopt to locate groups in your community.
- Organize or join in a creek, river, bay or ocean cleanup event such as Coastal & Inner Coastal Cleanup Day that takes place the 3rd Saturday of every September. For more information visit www.coast4u.org.

Follow these simple tips to protect the water quality of your watershed:

- **Sweep up debris and dispose of it in the trash. Do not hose down driveways or sidewalks into the street or gutter.**
- **Use dry cleanup methods such as cat litter to absorb spills and sweep up residue.**
- **Set your irrigation systems to reflect seasonal water needs or use weather-based controllers. Inspect for runoff regularly.**
- **Cover trashcans securely.**
- **Take hazardous waste to a household hazardous waste collection center. (For example, paint, batteries and petroleum products)**
- **Pick up after your pet.**
- **Follow application and disposal directions for pesticides and fertilizers.**
- **If you wash your car at home, wash it on your lawn or divert the runoff onto a landscaped area. Consider taking your car to a commercial car wash, where the water is reclaimed or recycled.**
- **Keep your car well maintained.**
- **Never pour oil or antifreeze in the street, gutter or storm drain.**

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. Materials and excess concrete or mortar can be blown or 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 throw building materials into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

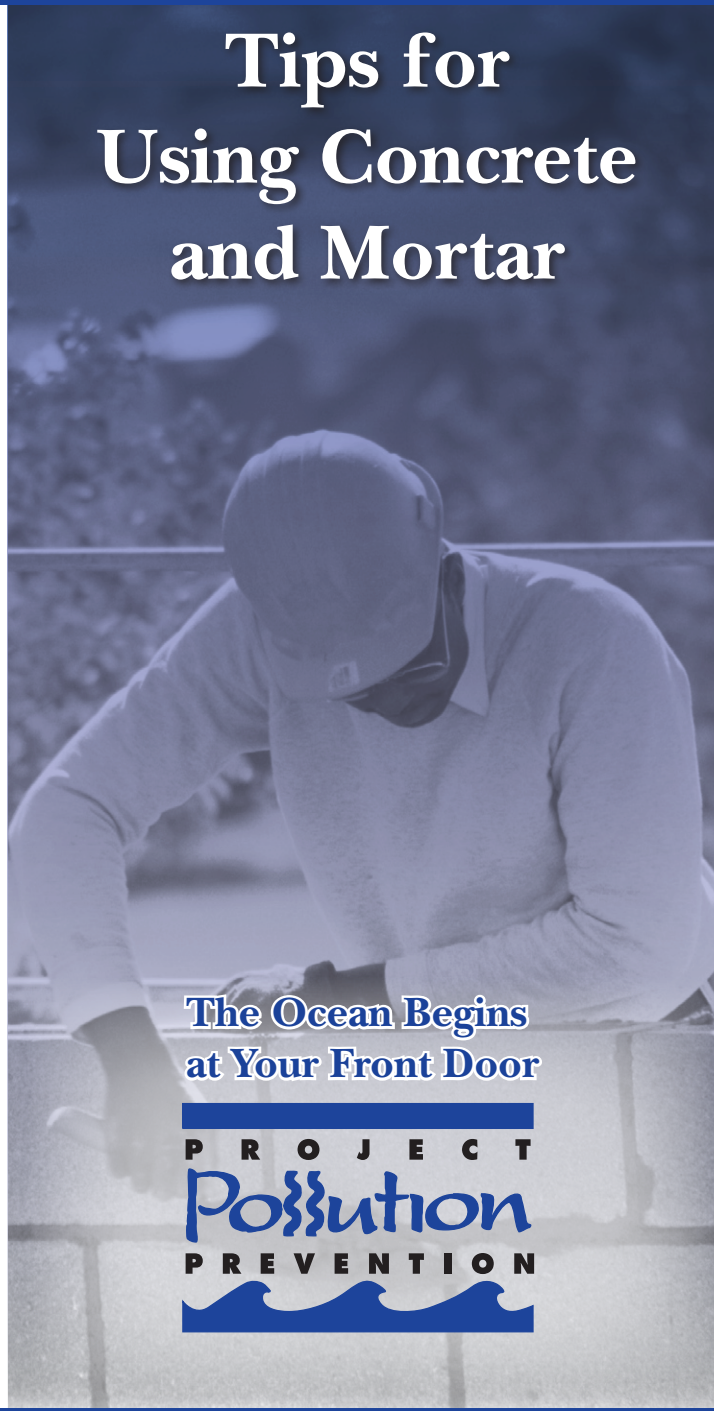
For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL** (1-877-897-7455) or visit **www.ocwatersheds.com.**

To report a spill, call the **Orange County 24-Hour Water Pollution Reporting Hotline** at **1-877-89-SPILL** (1-877-897-7455).

For emergencies, dial 911.

The Tips contained in this brochure provide useful information about how you can keep materials and washwater from entering the storm drain system. If you have other suggestions for how water and materials may be contained, please contact your city's stormwater representative or call the Orange County Stormwater Program.

Tips for Using Concrete and Mortar



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Using Concrete and Mortar

Never allow materials or washwater to enter the street or storm drain.

Before the Project

- Schedule projects for dry weather.
- Store materials under cover, with temporary roofs or plastic sheets, to eliminate or reduce the possibility that the materials can be carried from the project site to streets, storm drains or adjacent properties via rainfall, runoff or wind.
- Minimize waste by ordering only the amount of materials needed to complete the job.
- Take measures to block nearby storm drain inlets.

During the Project

- Set up and operate small mixers on tarps or heavy drop cloths.
- Do not mix more fresh concrete or cement than is needed for the job.

- When breaking up pavement, pick up all chunks and pieces and recycle them at a local construction and demolition recycling company. (See information to the right)
- When making saw cuts in pavement, protect nearby storm drain inlets during the saw-cutting operation and contain the slurry. Collect the slurry residue from the pavement or gutter and remove from the site.

Clean-Up

- Dispose of small amounts of dry concrete, grout or mortar in the trash.
- Never hose materials from exposed aggregate concrete, asphalt or similar treatments into a street, gutter, parking lot, or storm drain.
- Wash concrete mixers and equipment in designated washout areas where the water can flow into a containment area or onto dirt. Small amounts of dried material can be disposed of in the trash. Large amounts should be recycled at a local construction and demolition recycling company. (See information below)

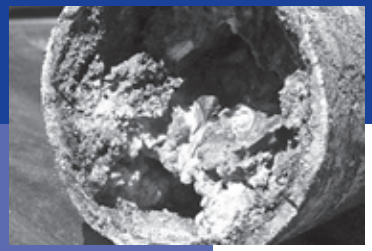
- Recycle cement wash water by pumping it back into cement mixers for reuse.

Spills

- Never hose down pavement or impermeable surfaces where fluids have spilled. Use an absorbent material such as cat litter to soak up a spill, then sweep and dispose in the trash.
- Clean spills on dirt areas by digging up and properly disposing of contaminated dry soil in trash.
- Immediately report significant spills to the County's 24-Hour Water Pollution Problem Reporting Hotline at 714-567-6363 or log onto the County's website at www.ocwatersheds.com and fill out an incident reporting form.

For a list of construction and demolition recycling locations in your area visit www.ciwmb.ca.gov/Recycle/.

For additional information on how to control, prevent, remove, and reduce pollution refer to the Stormwater Best Management Practice Handbook, available on-line at www.cabmphandbooks.com.



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. Fats, oils and grease from restaurants and food service facilities can cause sewer line blockages that may result in sewage overflow into your facility and into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways and should never contain washwater, trash, grease or other materials.

You would never dump oil and trash into the ocean, so don't let it enter the storm drains. Follow these 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

Report sewage spills and
discharges that are not
contained to your site to the
Orange County 24-Hour
Water Pollution Problem
Reporting Hotline
at **1-877-89-SPILL** (1-877-897-7455)

For emergencies, dial 911.

CALIFORNIA Restaurant ASSOCIATION SINCE 1906

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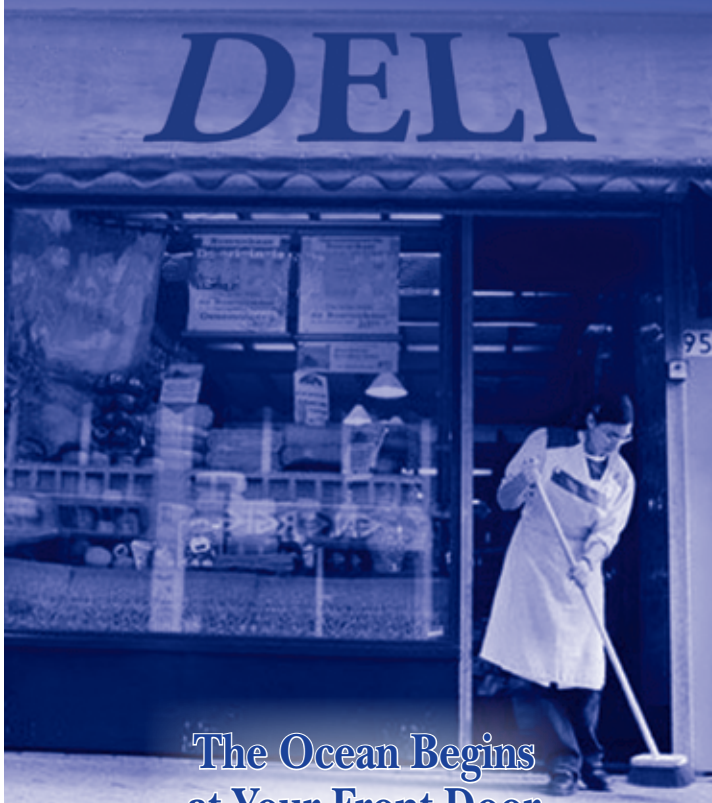
Help Prevent Ocean Pollution:

Tips for the Food Service Industry



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Best Kitchen Practices

Food Waste Disposal

- Scrape food waste off of plates, utensils, pots, food preparation and cooking areas and dispose of it in the trash.
- Never put food waste down the drain. Food scraps often contain grease, which can clog sewer pipes and result in sewage backups and overflows.

Grease & Oil Disposal

- Never put oil or grease down the drain. Contain grease and oil by using covered grease storage containers or installing a grease interceptor.
- Never overfill your grease storage container or transport it without a cover.
- Grease control devices must be emptied and cleaned by permitted companies.
- Keep maintenance records on site.

- For a list of oil/grease recycling companies, contact the CIWMB at **www.ciwmb.ca.gov/foodwaste/render.htm** or contact your local sanitation district.

Minor Spill Cleanup

- Always use dry cleanup methods, such as a rag, damp mop or broom.
- Never hose a spill into the street, gutter or storm drain.

Major Spill Cleanup

- Have spill containment and clean-up kits readily available, and train all employees on how to use them.
- Immediately contain and clean the spill using dry methods.
- If the spill leaves your site, call **(714) 567-6363**.

Dumpster Cleanup

- Pick up all debris around the dumpster.
- Always keep the lid on the dumpster closed.

- Never pour liquids into the dumpster or hose it out.

Floor Mat Cleaning

- Sweep the floor mats regularly, discarding the debris into the trash.
- Hose off the mats in a mop sink, at a floor drain, or in an outdoor area that can contain the water.

- Never hose the mats in an area where the wastewater can flow to the street, gutter or storm drain.

Washwater Disposal

- Dispose of washwater in a mop sink or an area with a floor drain.
- Never dispose of washwater in the street, gutter or storm drain.

PROJECT Pollution PREVENTION

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, not properly disposing of used oil is illegal and can lead to fines. If you pour or drain oil onto driveways, sidewalks or streets, it can be washed into the storm drain.

Help prevent water pollution by taking your used oil and oil filters to a used oil collection center. Most major automotive maintenance centers will accept up to five gallons of used motor oil at no cost. For a list of locations, please visit www.cleanup.org.

For more information, please call the **Orange County Stormwater Program** at **1-877-89-SPILL (1-877-897-7455)** or visit **www.ocwatersheds.com.**

For information about the proper disposal of household hazardous waste, call the **Household Waste Hotline** at **1-877-89-SPILL (1-877-897-7455)** or visit **www.oclandfills.com.**

For additional information about the nearest oil recycling center, call the **Used Oil Program** at **1-800-CLEANUP** or visit **www.cleanup.org.**

RECYCLE USED OIL

emc/rev9/08

Help Prevent Ocean Pollution:

Tips for the Home Mechanic

PROJECT Pollution PREVENTION

The Ocean Begins at Your Front Door

Tips for the Home Mechanic

WORK SITE

- Locate the storm drains on or near your property. Do not allow used oil or any materials to flow into these drains.
- Examine your home for sources of pollution.
- Perform automotive projects under cover and in a controlled area to prevent stormwater runoff.
- Sweep or vacuum your automotive workspace regularly
- Use a damp mop to clean work areas. Never hose down surfaces into the street, gutter or storm drain.

- Pour mop water into a sink or toilet. Never dispose of water in a parking lot, street, gutter or storm drain.

PREVENT LEAKS AND SPILLS

- Keep absorbent materials such as rags and/or cat litter in the work area
- Empty drip pans into a labeled, seal container before they are full
- Wipe up any spills or repair leaks as they happen. Don't let them sit.
- Place large pans under any wrecked cars until all fluids are drained.
- Promptly dispose of collected fluids into a hazardous waste drum or deliver them to an oil recycling center. Used oil recycling locations can be found at http://www.ochealthinfo.com/regulatory/usedoil.htm

CLEANING SPILLS

- Clean up spills immediately by using absorbent material such as rags, cat litter or sand. If the material spilled is hazardous, dispose of the rag, litter or sand in the same manner as hazardous waste. If the material spill is non-hazardous, dispose of it in the trash.

- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at 1-877-89-SPILL (1-877-897-7455) or visit www.ocwatersheds.com to fill out an incident report.
- Report emergencies to 911.

VEHICLE FLUID MANAGEMENT

- Vehicle fluids are hazardous waste and must be stored and disposed of in accordance with all local, state and federal laws.
- Designate an area to drain vehicle fluids away from storm drains and sanitary drains.
- When possible, drain vehicle fluids indoors or within covered areas, and only over floors that are constructed of a non-porous material such as concrete. Asphalt and dirt floors absorb spilled or leaked fluids, making the cleanup extremely difficult.

PROJECT Pollution PREVENTION

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.

GENUINE RECYCLED PAPER
50% PRE-CONSUMER AND 15% POST-CONSUMER

RECYCLE USED OIL

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.

Preventing water pollution at your commercial/industrial site

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many landscape and building maintenance activities can lead to water pollution if you're not careful. Paint, chemicals, plant clippings and other materials can be blown or washed into 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 pour soap or fertilizers into the ocean, so why would you let them enter the storm drains? Follow these easy tips to help prevent water pollution.

Some types of industrial facilities are required to obtain coverage under the State General Industrial Permit. For more information visit: **www.swrcb.ca.gov/stormwater/industrial.html**

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.

RECYCLE USED OIL

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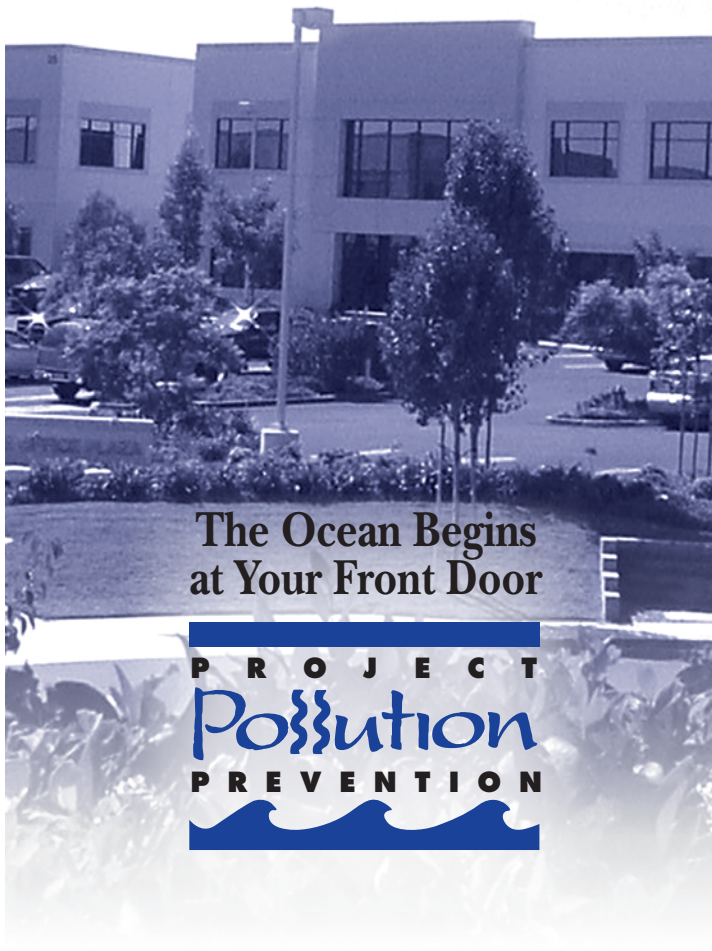
Help Prevent Ocean Pollution:

Proper Maintenance Practices for Your Business



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Proper Maintenance Practices for your Business

Landscape Maintenance

- Compost grass clippings, leaves, sticks and other vegetation, or dispose of it at a permitted landfill or in green waste containers. Do not dispose of these materials in the street, gutter or storm drain.
- Irrigate slowly and inspect the system for leaks, overspraying and runoff. Adjust automatic timers to avoid overwatering.
- Follow label directions for the use and disposal of fertilizers and pesticides.
- Do not apply pesticides or fertilizers if rain is expected within 48 hours or if wind speeds are above 5 mph.
- Do not spray pesticides within 100 feet of waterways.
- Fertilizers should be worked into the soil rather than dumped onto the surface.
- If fertilizer is spilled on the pavement or sidewalk, sweep it up immediately and place it back in the container.

Building Maintenance

- Never allow washwater, sweepings or sediment to enter the storm drain.
- Sweep up dry spills and use cat litter, towels or similar materials to absorb wet spills. Dispose of it in the trash.
- If you wash your building, sidewalk or parking lot, you **must** contain the water. Use a shop vac to collect the water and contact your city or sanitation agency for proper disposal information. Do not let water enter the street, gutter or storm drain.
- Use drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of materials in the trash.
- Use a ground cloth or oversized tub for mixing paint and cleaning tools.
- Use a damp mop or broom to clean floors.
- Cover dumpsters to keep insects, animals, rainwater and sand from entering. Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.
- Call your trash hauler to replace leaking dumpsters.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or near a storm drain. Even materials that seem harmless such as latex paint or biodegradable cleaners can damage the environment.

NEVER DISPOSE OF ANYTHING IN THE STORM DRAIN.

- Recycle paints, solvents and other materials. For more information about recycling and collection centers, visit **www.oclandfills.com**.
- Store materials indoors or under cover and away from storm drains.
- Use a construction and demolition recycling company to recycle lumber, paper, cardboard, metals, masonry, carpet, plastic, pipes, drywall, rocks, dirt, and green waste. For a listing of construction and demolition recycling locations in your area, visit **www.ciwmb.ca.gov/recycle.**
- Properly label materials. Familiarize employees with Material Safety Data Sheets.

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. Washwater, oil and residue from car washing should not flow into 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 soap, oil or dirty water 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 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 about how you can keep soap, oil and washwater from car wash activities from entering the storm drain system. If you have other suggestions, please contact your city's stormwater representative or call the Orange County Stormwater Program.

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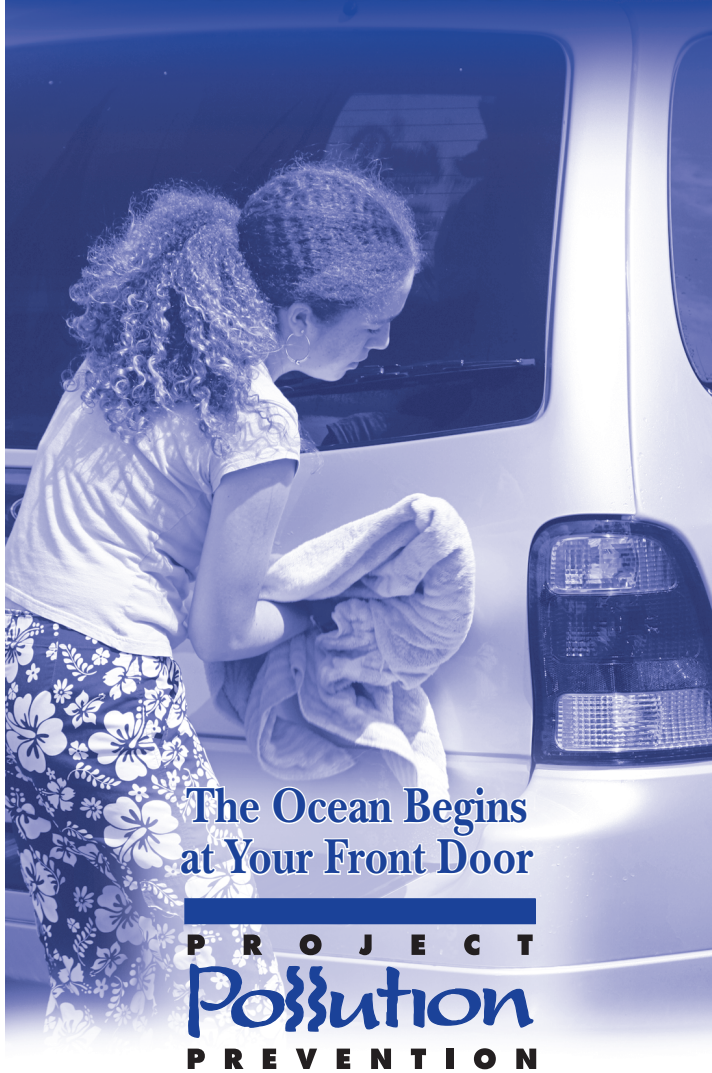
Help Prevent Ocean Pollution:

Tips for Car Wash Fund-Raisers



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Car Wash Fund-Raisers

Before beginning your car wash fund-raiser

- Partner with a professional car wash and avoid the pollution that parking lot car washes can produce.

- Hold a meeting with all participants to explain the proper procedures that should be followed when washing cars.
- Remove all trash and debris from the car washing area.
- Select only soaps, cleaners or detergents labeled "non-toxic," "phosphate-free," or "biodegradable." The safest products for the environment are vegetable-based or citrus-based soaps. However, even these soaps can be toxic for the environment, so never let any products enter the street, gutter or storm drain.
- Do not use acid based wheel cleaners or engine degreasers.
- Select a site where the washwater can soak into grass, gravel, or be diverted to nearby landscaping. This will allow the washwater to filter through the vegetation and/or soil instead of flowing directly into a storm drain.
- Divert the washwater to an area where the water can pool and evaporate throughout the day, or arrange to dispose of the washwater down a sanitary sewer drain. For details, refer to Factsheet *IC24 Wastewater Disposal Guidelines located* at **www.ocwatersheds.com/StormWater/documents_bmp_existing_development.asp#res**
- If there is a storm drain on-site, block it with sandbags. At the end of the day, dispose of the sandbags by dumping the contents in an authorized landscaped area.

During the fund-raiser

- Never let any trash or washwater enter the street, gutter or storm drain.
- Shake car mats in a trash can or vacuum them. Do not shake dirt from car mats directly onto the ground.
- Use a bucket of soapy water to re-soap rags or sponges throughout the day rather than adding soap directly to them.
- Wring sponges and washrags into buckets, not the ground.
- Conserve water by using a spray nozzle with an automatic shut-off. Turn off the water or kink the hose when not in use.
- Always empty buckets into the sanitary sewer system (e.g. sinks or toilets) or a landscaped area rather than pouring the water on concrete or asphalt.

After the fund-raiser

- Remember to clean up. Have a volunteer walk the perimeter of the site to pick up trash and debris and dispose of it properly.

PROJECT Pollution PREVENTION

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

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. Home improvement projects and work sites must be maintained to ensure that building materials 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 building materials into the ocean, so don't let them enter the storm drains. Follow these 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
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 while performing home improvement projects. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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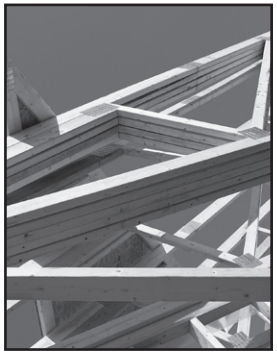
Help Prevent Ocean Pollution:

Tips for Home Improvement Projects

Tips for Home Improvement Projects

Home improvement projects can cause significant damage to the environment. Whether you hire a contractor or work on the house yourself, it is important to follow these simple tips while renovating, remodeling or improving your home:

General Construction



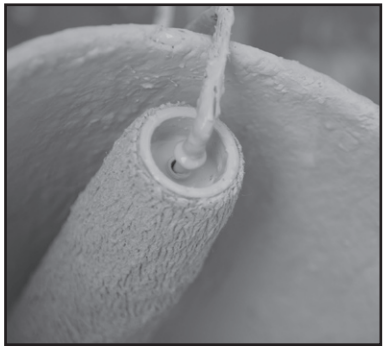
- Schedule projects for dry weather.
- Keep all construction debris away from the street, gutter and storm drain.
- Store materials under cover with temporary roofs or plastic sheets to eliminate or reduce the possibility that rainfall, runoff or wind will carry materials from the project site to the street, storm drain or adjacent properties.

Building Materials

- Never hose materials into a street, gutter or storm drain.
- Exposed piles of construction material should not be stored on the street or sidewalk.
- Minimize waste by ordering only the amount of materials needed to complete the job.
- Do not mix more fresh concrete than is needed for each project.
- Wash concrete mixers and equipment in a designated washout area where the water can flow into a containment area or onto dirt.
- Dispose of small amounts of dry excess materials in the trash. Powdery waste, such as dry concrete, must be properly contained within a box or bag prior to disposal. Call your local trash hauler for weight and size limits.

Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Place the lid on firmly and store the paint can upside-down in a dry location away from the elements.
- Tools such as brushes, buckets and rags should never be washed where excess water can drain into the street, gutter or storm drain. All tools should be rinsed in a sink connected to the sanitary sewer.
- When disposing of paint, never put wet paint in the trash.
- Dispose of water-based paint by removing the lid and letting it dry in the can. Large amounts must be taken to a Household Hazardous Waste Collection Center (HHWCC).



- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.
- For HHWCC locations and hours, call **(714) 834-6752** or visit **www.oclandfills.com**.

Erosion Control

- Schedule grading and excavation projects for dry weather.
- When temporarily removing soil, pile it in a contained, covered area where it cannot spill into the street, or obtain the required temporary encroachment or street closure permit and follow the conditions instructed by the permit.
- When permanently removing large quantities of soil, a disposal location must be found prior to excavation. Numerous businesses are available to handle disposal needs. For disposal options, visit **www.ciwmb.ca.gov/SWIS**.
- Prevent erosion by planting fast-growing annual and perennial grasses. They will shield and bind the soil.

Recycle

- Use a construction and demolition recycling company to recycle lumber, paper, cardboard, metals, masonry (bricks, concrete, etc.), carpet, plastic, pipes (plastic, metal and clay), drywall, rocks, dirt and green waste.

- For a listing of construction and demolition recycling locations in your area, visit **www.ciwmb.ca.gov/recycle.**

Spills

- Clean up spills immediately by using an absorbent material such as cat litter, then sweep it up and dispose of it in the trash.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at **(714) 567-6363** or visit **www.ocwatersheds.com** to fill out an incident reporting form.

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. 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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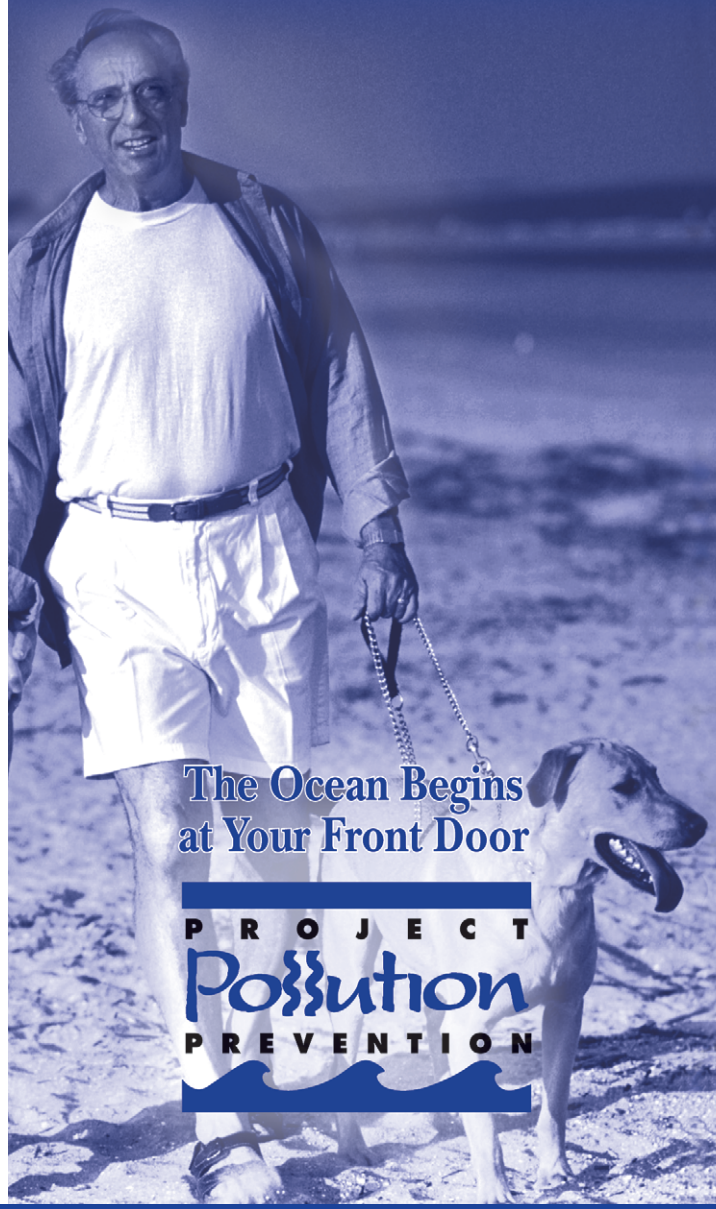
Help Prevent Ocean Pollution:

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

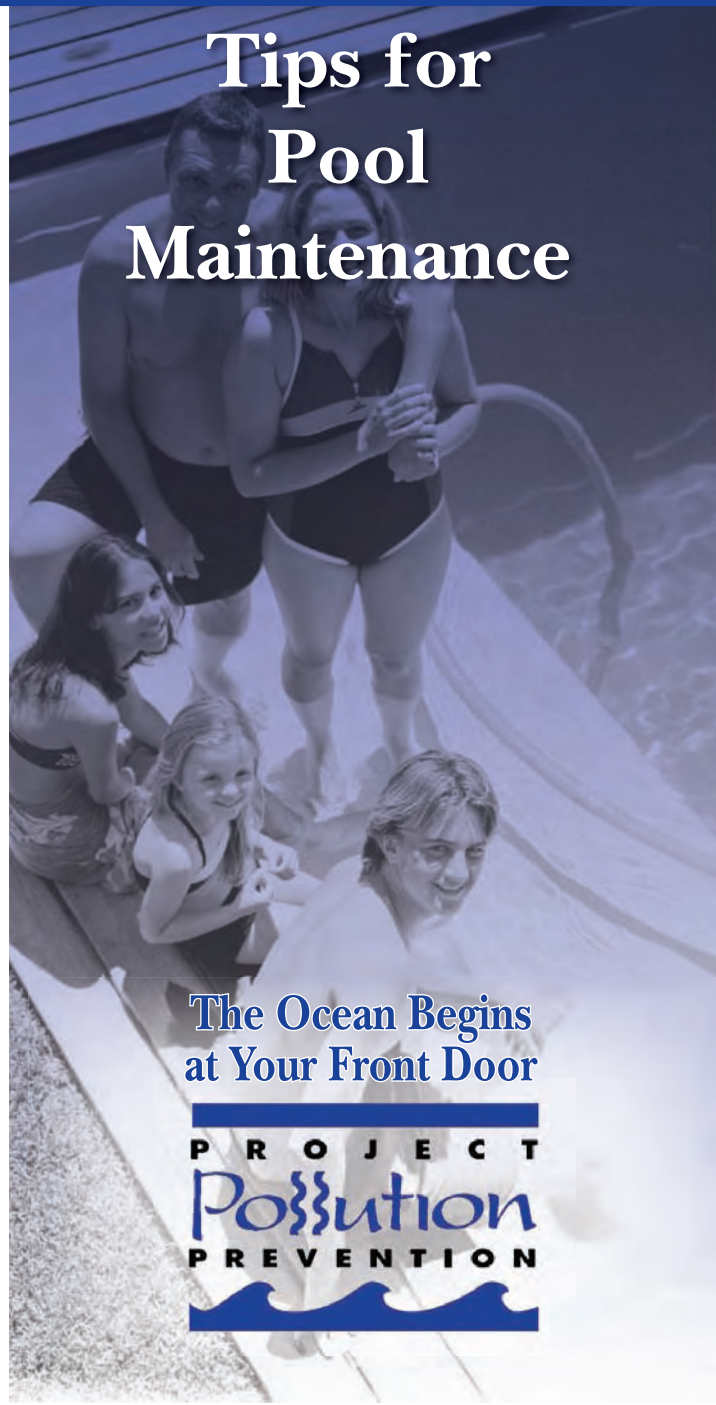
To report a spill,
call the
Orange County 24-Hour
Water Pollution Reporting Hotline
1-877-89-SPILL (1-877-897-7455).

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

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

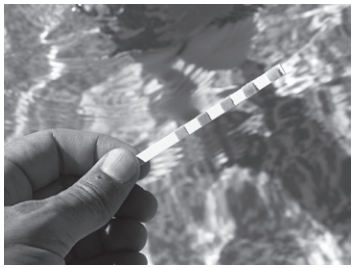
PROJECT Pollution PREVENTION

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

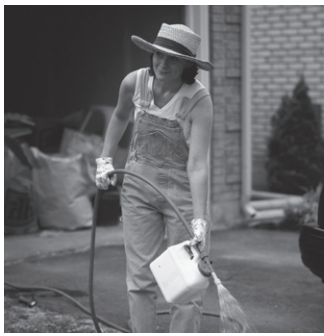
The following recommendations will help reduce or prevent pollutants from your landscape and hardscape drains from entering the street, gutter or storm drain. Unlike water that enters the sewer (from sinks and toilets), water that enters a landscape or hardscape drain is not treated before entering our 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 such as painting can lead to water pollution if you're not careful. Paint must be used, stored and disposed of properly to ensure that it does 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 paint 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 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 while using, storing and disposing of paint. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

Printed on Recycled Paper

Help Prevent Ocean Pollution:

Tips for Projects Using Paint

Tips for Projects Using Paint

Paint can cause significant damage to our environment. Whether you hire a contractor or do it yourself, it is important to follow these simple tips when purchasing, using, cleaning, storing and disposing of paint.

Purchasing Paint

- Measure the room or object to be painted, then buy only the amount needed.
- Whenever possible, use water-based paint since it usually does not require hazardous solvents such as paint thinner for cleanup.

Painting

- Use only one brush or roller per color of paint to reduce the amount of water needed for cleaning.
- Place open paint containers or trays on a stable surface and in a position that is unlikely to spill.
- Always use a tarp under the area or object being painted to collect paint drips and contain spills.

Cleaning

- Never clean brushes or rinse paint containers in the street, gutter or storm drain.
- For oil-based products, use as much of the paint on the brushes as possible. Clean brushes with thinner. To reuse thinner, pour it through a fine filter (e.g. nylon, metal gauze or filter paper) to remove solids such as leftover traces of paint.
- For water-based products, use as much of the paint on the brushes as possible, then rinse in the sink.
- Collect all paint chips and dust. Chips and dust from marine paints or paints containing lead, mercury or tributyl tin are hazardous waste. Sweep up and dispose of at a Household Hazardous Waste Collection Center (HHWCC).

Storing Paint

- Store paint in a dry location away from the elements.
- Store leftover water-based paint, oil-based paint and solvents separately in original or clearly marked containers.
- Avoid storing paint cans directly on cement floors. The bottom of the can will rust much faster on cement.
- Place the lid on firmly and store the paint can upside-down to prevent air from entering. This will keep the paint usable longer. Oil-based paint is usable for up to 15 years. Water-based paint remains usable for up to 10 years.

Alternatives to Disposal

- Use excess paint to apply another coat, for touch-ups, or to paint a closet, garage, basement or attic.
- Give extra paint to friends or family. Extra paint can also be donated to a local theatre group, low-income housing program or school.
- Take extra paint to an exchange program such as the **"Stop & Swap"** that allows you to drop off or pick up partially used home care products free of charge. **"Stop & Swap"** programs are available at most HHWCCs.
- For HHWCC locations and hours, call **(714) 834-6752** or visit **www.oclandfills.com**.

Disposing of Paint

- Never put wet paint in the trash.

For water-based paint:

- If possible, brush the leftover paint on cardboard or newspaper. Otherwise, allow the paint to dry in the can with the lid off in a well-ventilated area protected from the elements, children and pets. Stirring the paint every few days will speed up the drying.
- Large quantities of extra paint should be taken to a HHWCC.
- Once dried, paint and painted surfaces may be disposed of in the trash. When setting a dried paint can out for trash collection, leave the lid off so the collector will see that the paint has dried.

For oil-based paint:

- Oil-based paint is a household hazardous waste. All leftover paint should be taken to a HHWCC.

Aerosol paint:

- Dispose of aerosol paint cans at a HHWCC.

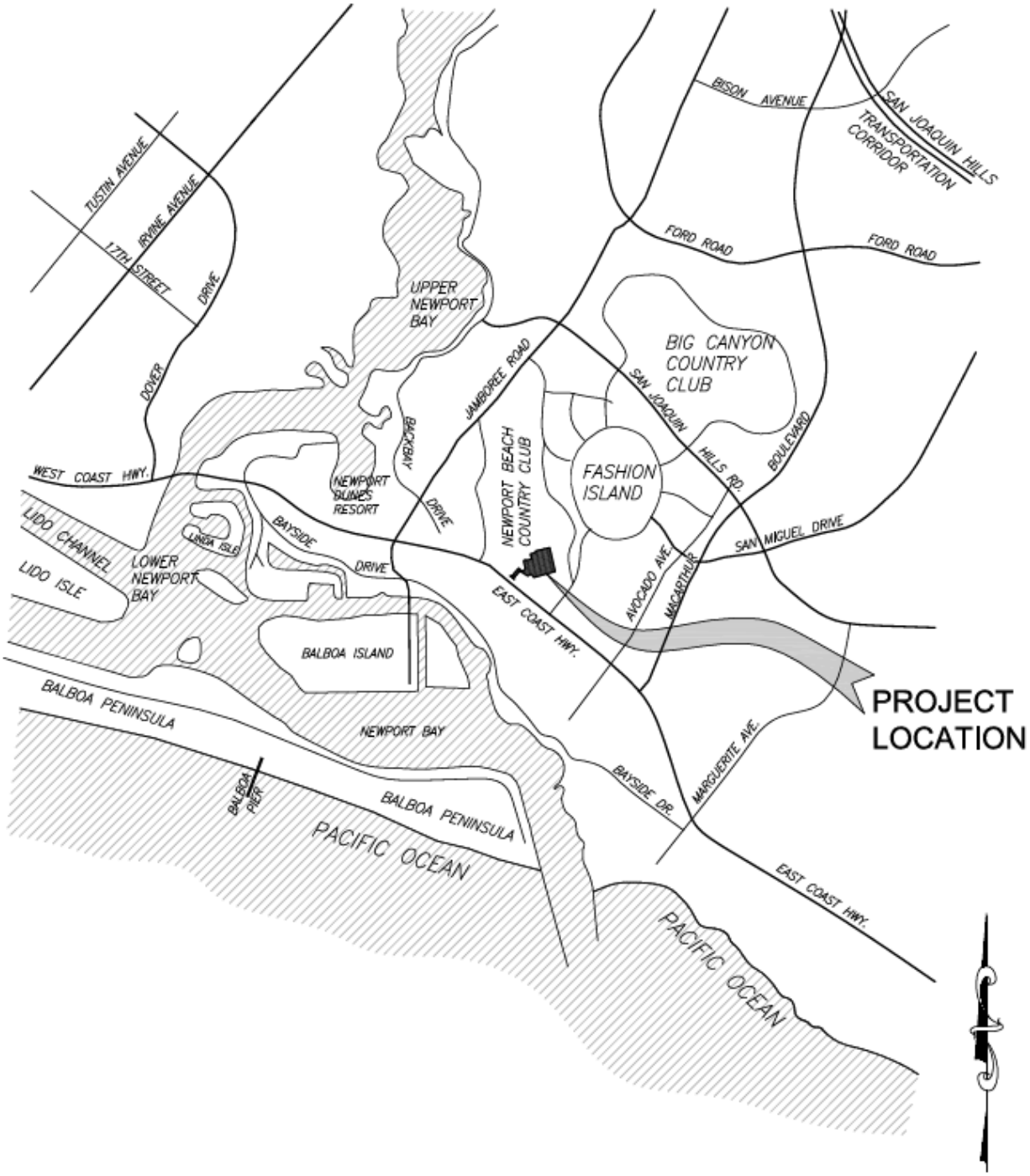
Spills

- Never hose down pavement or other impermeable surfaces where paint has spilled.
- Clean up spills immediately by using an absorbent material such as cat litter. Cat litter used to clean water-based paint spills can be disposed of in the trash. When cleaning oil-based paint spills with cat litter, it must be taken to a HHWCC.
- Immediately report spills that have entered the street, gutter or storm drain to the County's 24-Hour Water Pollution Problem Reporting Hotline at **(714) 567-6363** or visit **www.ocwatersheds.com** to fill out an incident reporting form.

PROJECT Pollution PREVENTION

Attachment B - Exhibits/Maps

Vicinity Map



Storm Drain Map

LEGEND:

- TRACT BOUNDARY
- BUILDING ROOF
- IMPERVIOUS SURFACE
- PERVIOUS SURFACE

AREA DELINEATION TABLE:

		AREA	PERCENT
TOTAL PERVIOUS AREA		1.03 AC	14.8%
LANDSCAPE:	1.03 AC		
TOTAL IMPERVIOUS AREA		5.00 AC	85.2%
BUILDING ROOF:	0.18 AC		
SIDEWALK/HARDSCAPE:	4.48 AC		
ROADWAY/PARKING LOT:	1.29 AC		
TOTAL		6.98 AC	100%

REGISTERED PROFESSIONAL ENGINEER — ROY L. ROBERSON — NO. RCE 44160 EXP. 06/30/2019 — CIVIL — STATE OF CALIFORNIA

PREPARED BY:
LAND STRATEGIES, LLC
9241 IRVINE BLVD. SUITE 100
IRVINE, CA 92618
(949) 580-3000

ROY L. ROBERSON R.C.E. 44160 — DATE

NEWPORT BEACH COUNTRY CLUB

EXISTING CONDITION

1602 EAST COAST HIGHWAY, NEWPORT BEACH, CA 92660

CITY OF NEWPORT BEACH
BUILDING AND SAFETY DEPARTMENT

AREA DELINEATION TABLE:

AREA DELINEATION TABLE:		AREA	AREA
TOTAL PERVIOUS AREA		1.75 AC.	25.1%
LANDSCAPE:	1.75 AC.		
TOTAL IMPERVIOUS AREA:		5.23 AC.	74.9%
BUILDING ROOF:	1.23 AC.		
SIDEWALK/HARDSCAPE:	3.14 AC.		
ROADWAY/PARKING LOT:	0.86 AC.		
TOTAL:		6.98 AC.	100%

REGISTERED PROFESSIONAL ENGINEER
ROY L. ROBERSON
NO. RCE 44160
EXP. 06/30/2019
CIVIL
STATE OF CALIFORNIA

PREPARED BY:
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9241 IRVINE BLVD. SUITE 100
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ROY L. ROBERSON R.C.E. 44160 — DATE

NEWPORT BEACH COUNTRY CLUB

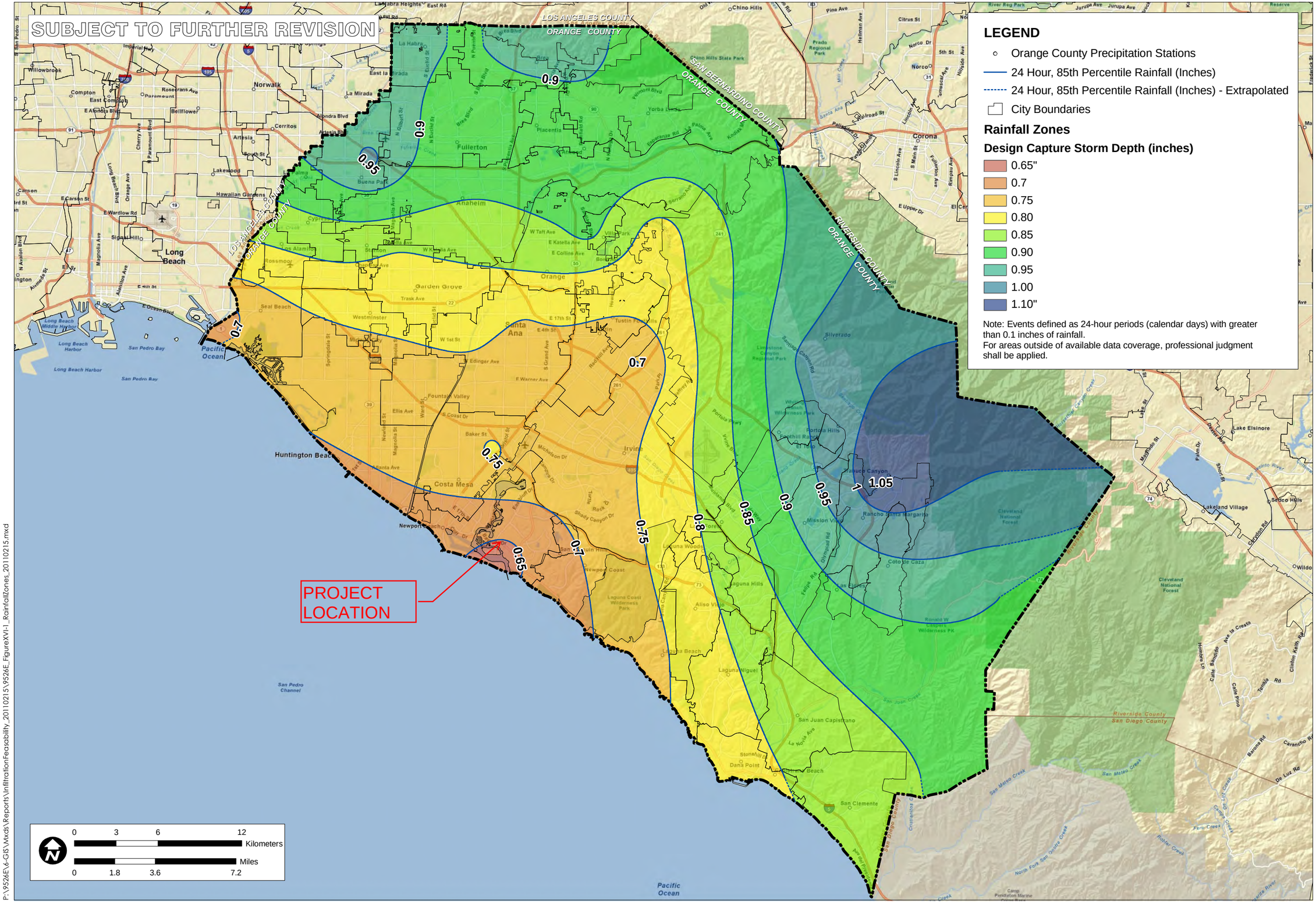
WQMP EXHIBIT

1602 EAST COAST HIGHWAY, NEWPORT BEACH, CA 92660

CITY OF NEWPORT BEACH
BUILDING AND SAFETY DEPARTMENT

Attachment C - TGD Reference Maps

SUBJECT TO FURTHER REVISION



LEGEND

- Orange County Precipitation Stations
- 24 Hour, 85th Percentile Rainfall (Inches)
- 24 Hour, 85th Percentile Rainfall (Inches) - Extrapolated
- City Boundaries

Rainfall Zones

Design Capture Storm Depth (inches)

- 0.65"
- 0.7
- 0.75
- 0.80
- 0.85
- 0.90
- 0.95
- 1.00
- 1.10"

Note: Events defined as 24-hour periods (calendar days) with greater than 0.1 inches of rainfall.
For areas outside of available data coverage, professional judgment shall be applied.

TITLE: RAINFALL ZONES

JOB: ORANGE COUNTY TECHNICAL GUIDANCE DOCUMENT — ORANGE CO., CA

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/22/10
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE XVI-1

P:\9526E\6-GIS\Mxds\Reports\InfiltrationFeasability_20110215\9526E_FigureXVI-1_RainfallZones_20110215.mxd

SUBJECT TO FURTHER REVISION

LOS ANGELES COUNTY
ORANGE COUNTY
SAN BERNARDINO COUNTY
ORANGE COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
LOS ANGELES COUNTY
ORANGE COUNTY

LEGEND

City Boundaries

Hydrologic Soil Groups

- A Soils
- B Soils
- C Soils
- D Soils

Source:
Soils: Natural Resources Conservation Service (NRCS)
Soil Survey - soil_ca678, Orange County & Western Riverside
Date of publication: 2006-02-08
http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

PROJECT LOCATION

0 2.5 5 10 Kilometers
0 1.8 3.6 7.2 Miles

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TITLE
NRCS HYDROLOGIC SOILS GROUPS

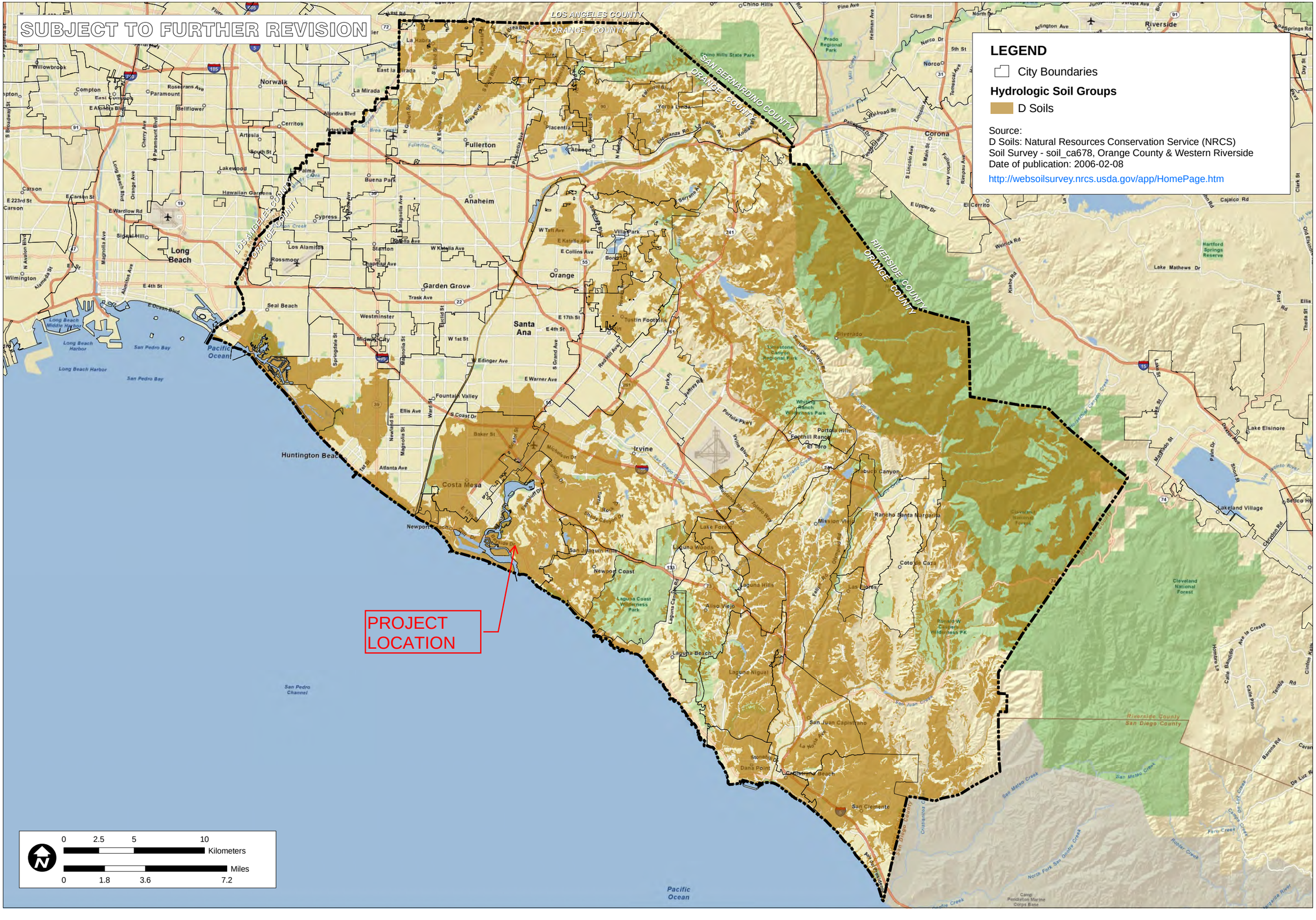
JOB
ORANGE CO. INFILTRATION STUDY
ORANGE COUNTY CA

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

SUBJECT TO FURTHER REVISION



LEGEND

City Boundaries

Hydrologic Soil Groups

D Soils

Source:
D Soils: Natural Resources Conservation Service (NRCS)
Soil Survey - soil_ca678, Orange County & Western Riverside
Date of publication: 2006-02-08
http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

0 2.5 5 10 Kilometers

0 1.8 3.6 7.2 Miles

TITLE: HYDROLOGIC SOIL GROUP
TYPE D NRCS SOIL SURVEY

JOB: ORANGE CO. INFILTRATION STUDY — ORANGE COUNTY, 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-2b

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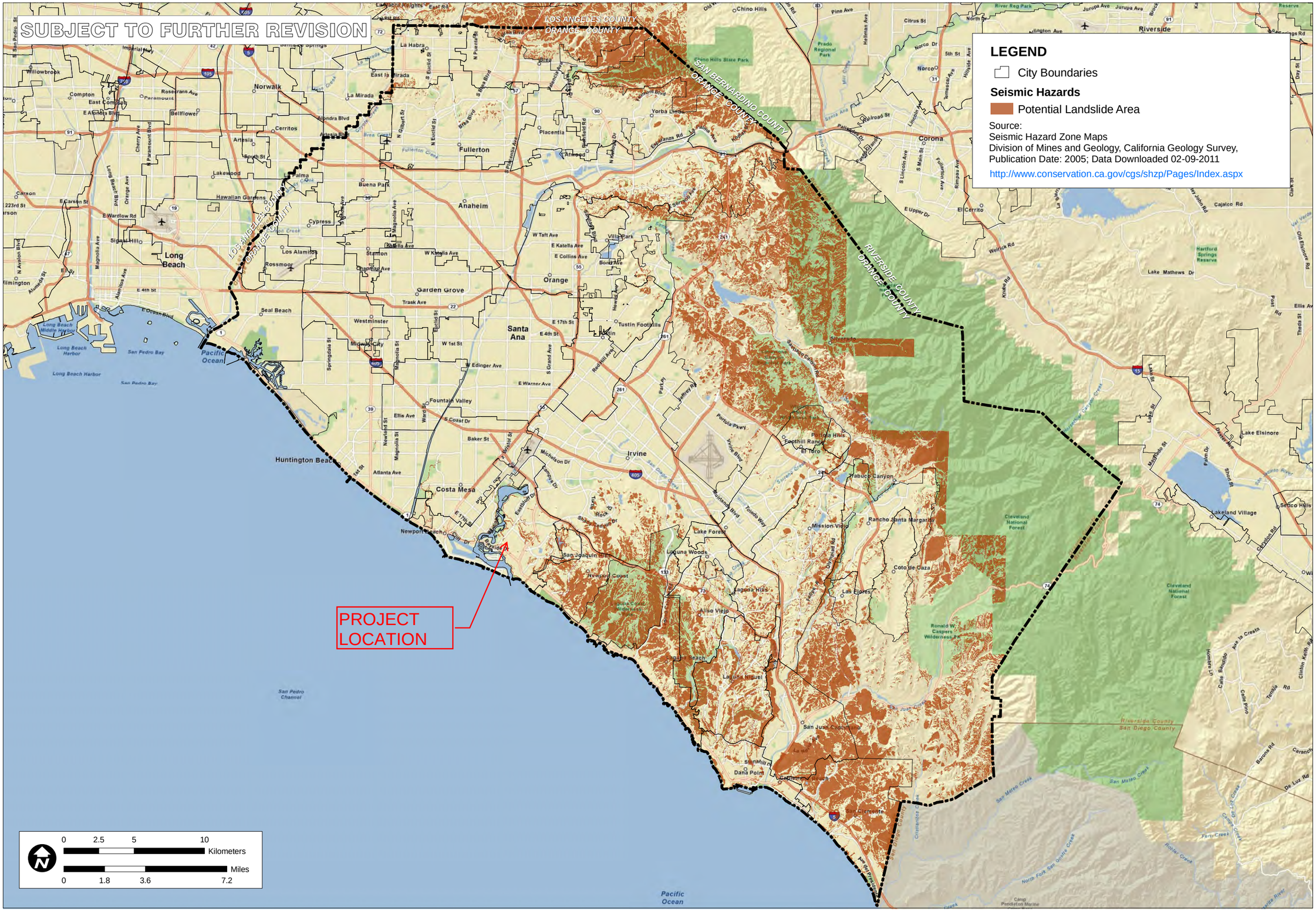
SUBJECT TO FURTHER REVISION



LEGEND

City Boundaries

Seismic Hazards

Potential Landslide Area

Source:
Seismic Hazard Zone Maps
Division of Mines and Geology, California Geology Survey,
Publication Date: 2005; Data Downloaded 02-09-2011
http://www.conservation.ca.gov/cgs/shzp/Pages/Index.aspx

TITLE: HYDROLOGIC SOIL GROUP
TYPE D NRCS SOIL SURVEY

JOB: ORANGE CO. INFILTRATION STUDY — CA

SCALE	1" = 1.25 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
XVI-2c

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SUBJECT TO FURTHER REVISION

LEGEND

- Depth To First Groundwater Contours
- City Boundaries
- OCWD Groundwater Basin Protection Boundary

Note: Data are not available for South Orange County at this time.

Source:
Sprotte, Fuller and Greenwood, 1980.
California Division of Mines and Geology;
California Geological Survey

LOS ANGELES COUNTY
ORANGE COUNTY
SAN BERNARDINO COUNTY
ORANGE COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY

PROJECT LOCATION

0 2 4 8 Kilometers
0 1.25 2.5 5 Miles

TITLE
NORTH ORANGE COUNTY
MAPPED DEPTH TO FIRST
GROUNDWATER

JOB
ORANGE CO.
ORANGE COUNTY
INFILTRATION STUDY
CA

SCALE	1" = 1.25 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
XVI-2d

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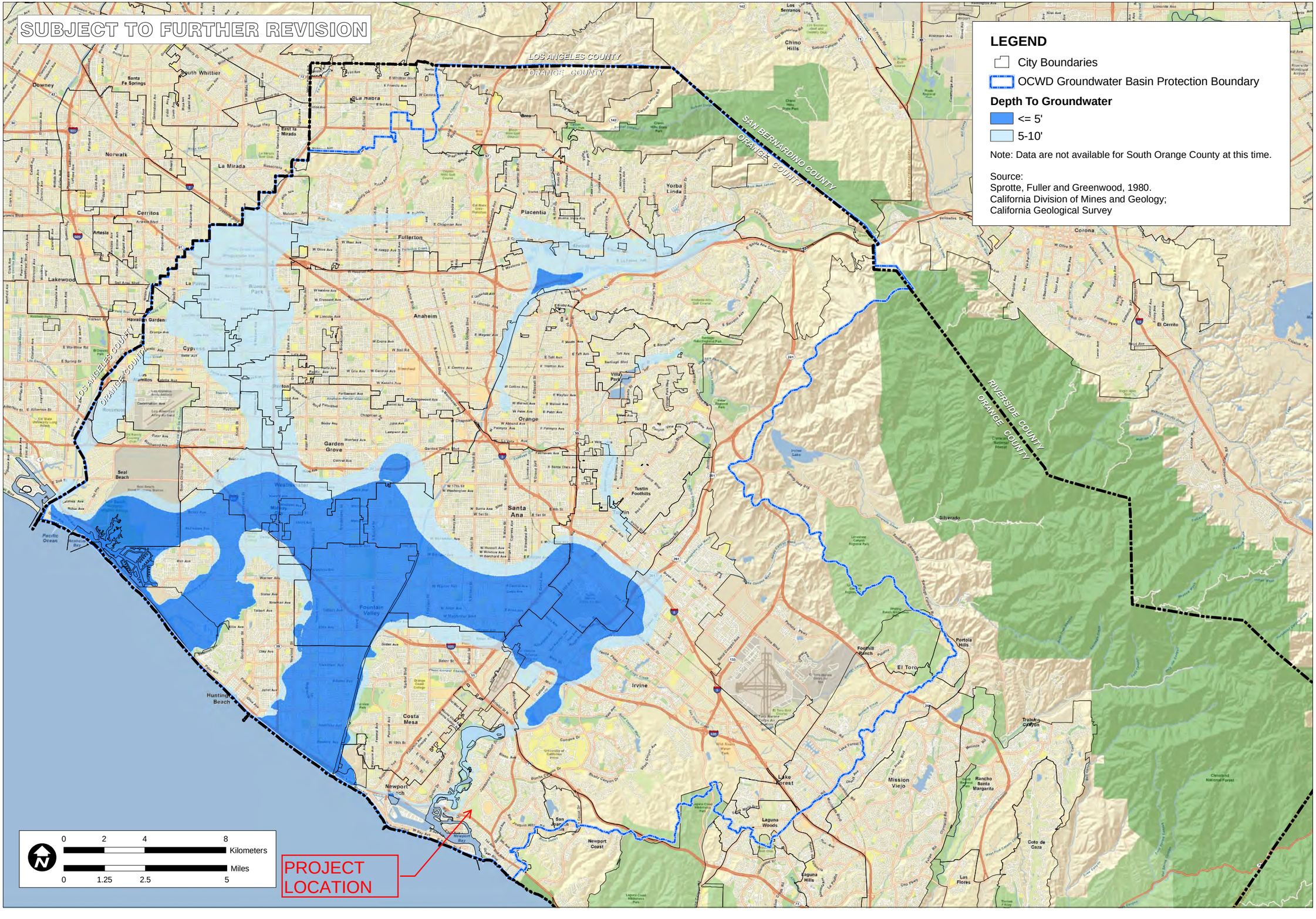
SUBJECT TO FURTHER REVISION



LEGEND

- City Boundaries
- OCWD Groundwater Basin Protection Boundary

Depth To Groundwater

- <= 5'
- 5-10'

Note: Data are not available for South Orange County at this time.

Source:
Sprotte, Fuller and Greenwood, 1980.
California Division of Mines and Geology;
California Geological Survey

TITLE
NORTH ORANGE COUNTY
MAPPED SHALLOW GROUNDWATER

JOB
ORANGE COUNTY
INFILTRATION STUDY
CA
ORANGE CO.

SCALE	1" = 1.25 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	02/09/11
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
XVI-2e

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SUBJECT TO FURTHER REVISION

LEGEND

- OCWD Groundwater Basin Protection Boundary
- City Boundaries

Infiltration Constraints

- 1 Constraint
- 2 Overlapping Constraints
- 3 Overlapping Constraints
- 4 Overlapping Constraints

Analysis Layers Included: 1. Hydrologic Soil Group D, 2. Landslide Hazard Zone, 3. Groundwater Protection Areas 4. Approximate Selinium Area, 5. Depth to Groundwater <= 5'

Note: Screening datasets are not exhaustive. The applicant should always conduct a review of available site-specific information relative to infiltration constraints as part of assessing the feasibility of stormwater infiltration.
Source;
Infiltration Constraint Analysis: PACE/Geosyntec

PROJECT LOCATION

0 2.5 5 10 Kilometers

0 1.8 3.6 7.2 Miles

TITLE: INFILTRATION ANALYSIS OVERLAPPING CONSTRAINT LOCATIONS

JOB: ORANGE COUNTY INFILTRATION STUDY — CA — ORANGE CO.

SCALE	1" = 1.8 miles
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/22/10
JOB NO.	9526-E

PACE Advanced Water Engineering

FIGURE XVI-2g

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Susceptibility

Potential Areas of Erosion, Habitat, & Physical Structure Susceptibility

Channel Type

- Earth (Unstable)
- Earth (Stabilized)
- Stabilized

Tidal Influence

<= Mean High Water Line (4.28')

Water Body

- Basin
- Dam
- Lake
- Reservoir

Other Lands

- Airport/Military

AnaheimBay-HuntingtonHarbor Watershed

Santa Ana River Watershed

Santa Ana River Watershed

South Orange County

EL MODENA-IRVINE RETARDING BASIN

LOWER PETERS CANYON RETARDING BASIN

EASTFOOT RETARDING BASIN

ORCHARD ESTATES RETENTION BASIN

HICKS CANYON RETARDING BASIN

RATTLESNAKE RESERVOIR

EAST HICKS CANYON RETARDING BASIN

SIPHON RESERVOIR

BEE CANYON RETARDING BASIN

TRABUCO RETARDING BASIN

ROUND CANYON RETARDING BASIN

AGUA CHINON RETARDING BASIN

MARSHBURN RETARDING BASIN

NORTH LAKE

SOUTH LAKE

BASIN NUMBER 2

BASIN NUMBER 1

SAND CANYON RESERVOIR

LAGUNA RESERVOIR

BONITA CANYON RESERVOIR

VILLAGE POND PARK

BIG CANYON RESERVOIR

SAN JOAQUIN RESERVOIR

HARBOR VIEW DAM

John Wayne Airport

PROJECT LOCATION

PRELIMINARY MAP
SUBJECT TO FURTHER REVISION

0 4,000 8,000 16,000 Feet

P:_9526E\6-GIS\Mxds\Reports\InfiltrationFeasability_20110215\9526E_FigureXVI-3d_NewportBaySusceptibility_20100430.mxd

TITLE: SUSCEPTIBILITY ANALYIS
NEWPORT BAY-
NEWPORT COASTAL STREAMS

JOB: ORANGE COUNTY
WATERSHED
MASTER PLANNING
ORANGE CO. CA

SCALE	1" = 4000'
DESIGNED	TH
DRAWING	TH
CHECKED	BMP
DATE	04/30/10
JOB NO.	9526-E

PACE
Advanced Water Engineering

FIGURE
XVI-3d

Attachment D - DCV and Water Quality Credit Calculations

Newport Beach Country Club DCV Summary

Drainage Area	d ,in	TDA (sf)	TDA (acre)	Imp Area (acre)	% Imp	C	DCV (cf)
Existing	0.75	303,980	6.98	5.81	0.83	0.77	14,721
Proposed	0.75	303,980	6.98	5.13	0.75	0.71	13,537

d = Precipitation Depth

C = (0.75 x Imp Area) + 0.15

DCV = (d/12) x (TDA) x C

Attachment E - Fact Sheets/Operation and Maintenance

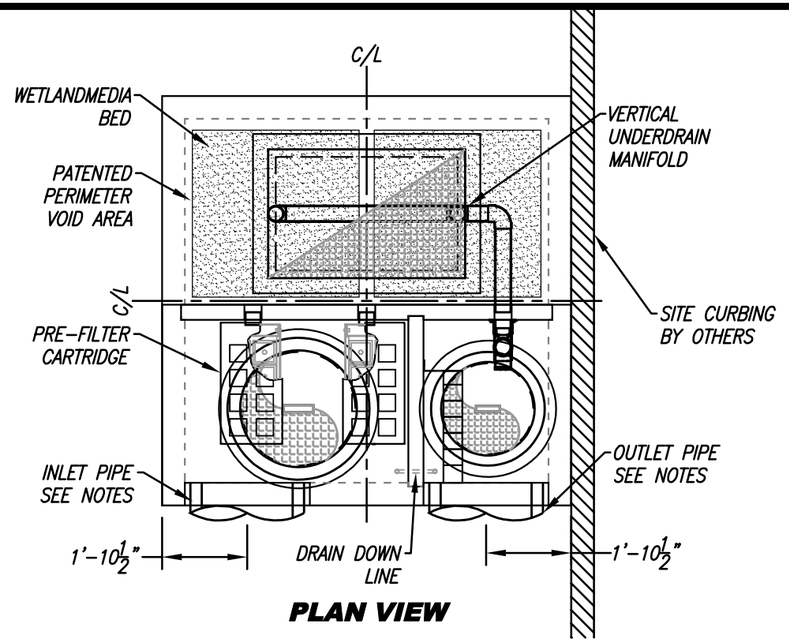
SITE SPECIFIC DATA			
PROJECT NUMBER		7793	
PROJECT NAME		NEWPORT BEACH COUNTRY CLUB	
PROJECT LOCATION		NEWPORT BEACH, CA	
STRUCTURE ID		----	
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
13537			
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			OFFLINE
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	87±	RCP	24"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	85.5±	RCP	24"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	102±	102±	102±
SURFACE LOAD	PARKWAY	PARKWAY	PARKWAY
FRAME & COVER	ø30"	2.5"X4"	ø24"
WETLANDMEDIA VOLUME (CY)			4.91
ORIFICE SIZE (DIA. INCHES)			1.17
NOTES: "(SOIL) TO POSSESS A NEGLIGIBLE TO POSSIBLY SEVERE SULFATE EXPOSURE TO CONCRETE, TO BE CORROSIVE TO FERROUS METALS"			

INSTALLATION NOTES

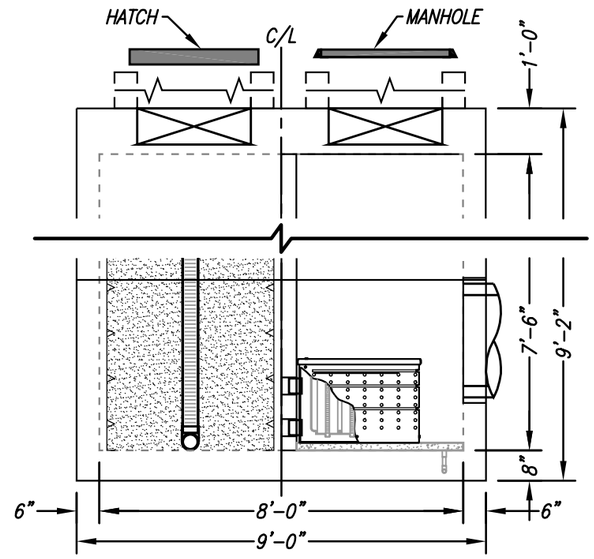
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON–SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING MODULAR WETLANDS FOR ACTIVATION OF UNIT. MANUFACTURES WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A MODULAR WETLANDS REPRESENTATIVE.

GENERAL NOTES

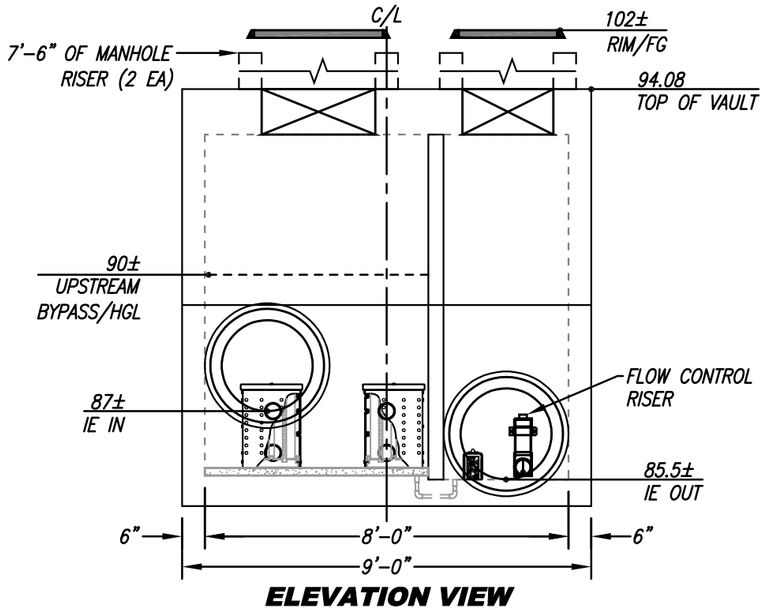
1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.



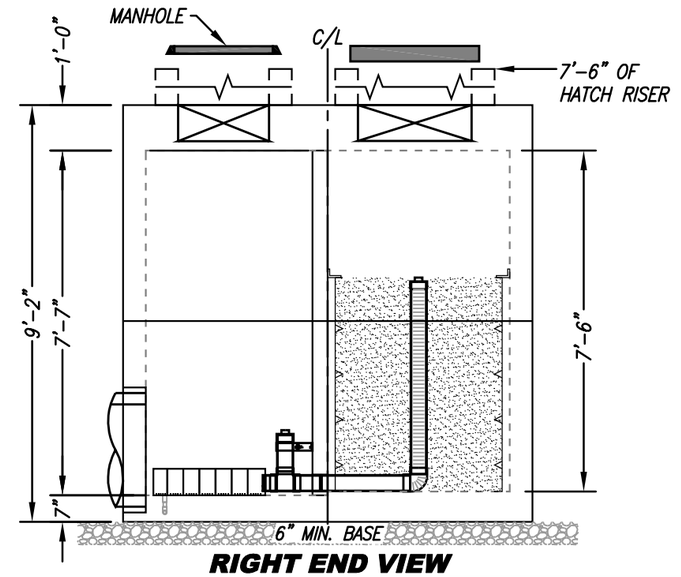
PLAN VIEW



LEFT END VIEW



ELEVATION VIEW



RIGHT END VIEW

REQUIRED TREATMENT VOLUME (CF)	13537
DRAINDOWN DURATION (HOURS)	48
AVERAGE DISCHARGE RATE PER MWS UNIT(GPM)	34.94
OPERATING HEAD (FT)	4.5
WETLANDMEDIA INFILTRATION RATE (IN/HR) OR	26
WETLANDMEDIA LOADING RATE (GPM/SF)	0.26

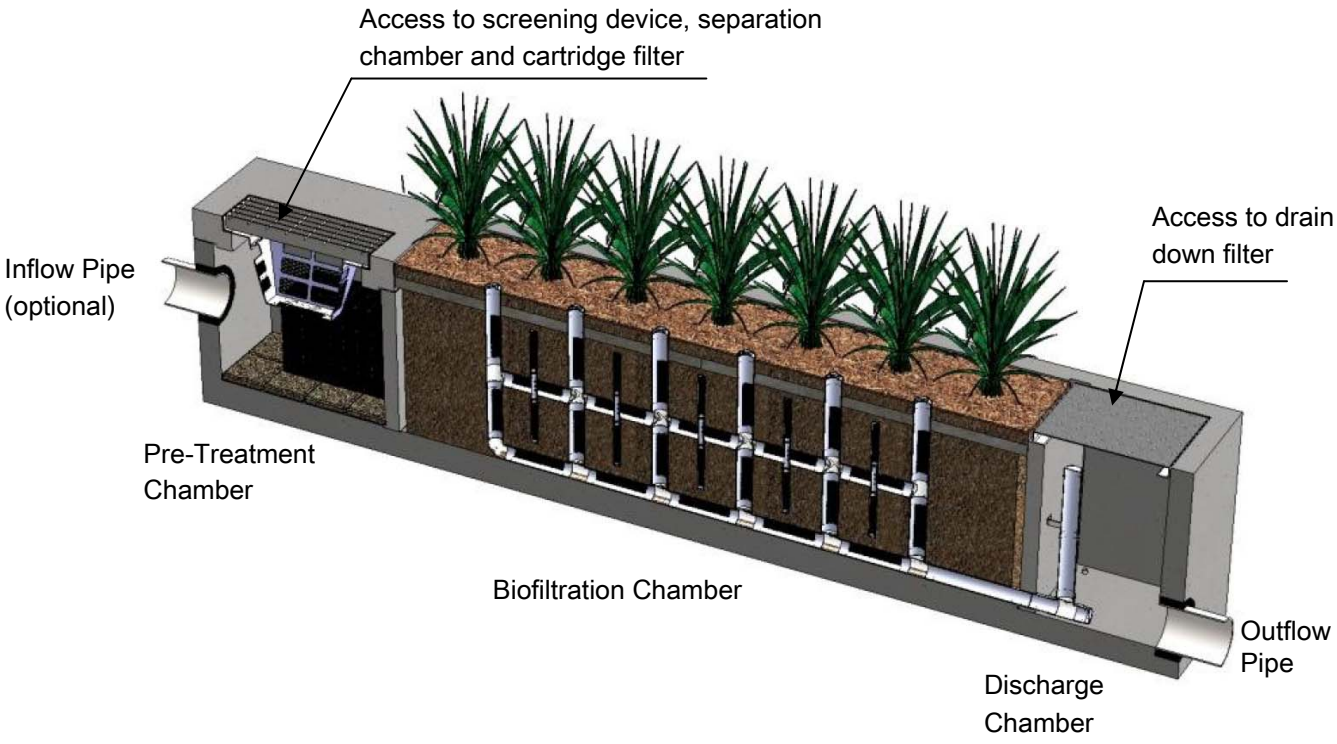
MWS-L-8-8-7'-6"-V-UG-HC
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

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

XIV.5. Biotreatment BMP Fact Sheets (BIO)

Conceptual criteria for biotreatment BMP selection, design, and maintenance are contained in **Appendix XII**. These criteria are generally applicable to the design of biotreatment BMPs in Orange County and BMP-specific guidance is provided in the following fact sheets.

Note: Biotreatment BMPs shall be designed to provide the maximum feasible infiltration and ET based on criteria contained in ***Appendix XI.2****.*

BIO-1: Bioretention with Underdrains

Also known as:

- *Rain gardens with underdrains*
- *Vegetated media filter*
- *Downspout planter boxes*

Bioretention
Source: Geosyntec Consultants

Bioretention stormwater treatment facilities are landscaped shallow depressions that capture and filter stormwater runoff. These facilities function as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. The facilities normally consist of a ponding area, mulch layer, planting soils, and plants. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants. Bioretention with an underdrain are utilized for areas with low permeability native soils or steep slopes where the underdrain system that routes the treated runoff to the storm drain system rather than depending entirely on infiltration. **Bioretention must be designed without an underdrain** in areas of high soil permeability.

Feasibility Screening Considerations

- If there are no hazards associated with infiltration (such as groundwater concerns, contaminant plumes or geotechnical concerns), **bioinfiltration facilities**, which achieve partial infiltration, should be used to maximize infiltration.
- Bioretention with underdrain facilities should be lined if contaminant plumes or geotechnical concerns exist. If high groundwater is the reason for infiltration infeasibility, bioretention facilities with underdrains do not need to be lined.

Opportunity Criteria

- Land use may include commercial, residential, mixed use, institutional, and subdivisions. Bioretention may also be applied in parking lot islands, cul-de-sacs, traffic circles, road shoulders, road medians, and next to buildings in planter boxes.
- Drainage area is ≤ 5 acres.
- Area is available for infiltration.

- Site must have adequate relief between land surface and the stormwater conveyance system to permit vertical percolation through the soil media and collection and conveyance in underdrain to stormwater conveyance system.

OC-Specific Design Criteria and Considerations

- ☐ Ponding depth should not exceed 18 inches; fencing may be required if ponding depth is greater than 6 inches to mitigate drowning.
- ☐ The minimum soil depth is 2 feet (3 feet is preferred).
- ☐ The maximum drawdown time of the bioretention ponding area is 48 hours. The maximum drawdown time of the planting media and gravel drainage layer is 96 hours, if applicable.
- ☐ Infiltration pathways may need to be restricted due to the close proximity of roads, foundations, or other infrastructure. A geomembrane liner, or other equivalent water proofing, may be placed along the vertical walls to reduce lateral flows. This liner should have a minimum thickness of 30 mils.
- ☐ If infiltration in bioretention location is hazardous due to groundwater or geotechnical concerns, a geomembrane liner must be installed at the base of the bioretention facility. This liner should have a minimum thickness of 30 mils.
- ☐ The planting media placed in the cell shall be designed per the recommendations contained in MISC-1: Planting/Storage Media
- ☐ Plant materials should be tolerant of summer drought, ponding fluctuations, and saturated soil conditions for 48 hours; native place species and/or hardy cultivars that are not invasive and do not require chemical inputs should be used to the maximum extent feasible
- ☐ The bioretention area should be covered with 2-4 inches (average 3 inches) or mulch at the start and an additional placement of 1-2 inches of mulch should be added annually.
- ☐ Underdrain should be sized with a 6 inch minimum diameter and have a 0.5% minimum slope. Underdrain should be slotted polyvinyl chloride (PVC) pipe; underdrain pipe should be more than 5 feet from tree locations (if space allows).
- ☐ A gravel blanket or bedding is required for the underdrain pipe(s). At least 0.5 feet of washed aggregate must be placed below, to the top, and to the sides of the underdrain pipe(s).
- ☐ An overflow device is required at the top of the bioretention area ponding depth.
- ☐ Dispersed flow or energy dissipation (i.e. splash rocks) for piped inlets should be provided at basin inlet to prevent erosion.
- ☐ Ponding area side slopes shall be no steeper than 3:1 (H:V) unless designed as a planter box BMP with appropriate consideration for trip and fall hazards.

Simple Sizing Method for Bioretention with Underdrain

If the Simple Design Capture Volume Sizing Method described in **Appendix III.3.1** is used to size a bioretention with underdrain facility, the user selects the basin depth and then determines the appropriate surface area to capture the DCV. The sizing steps are as follows:

Step 1: Determine DCV

Calculate the DCV using the Simple Design Capture Volume Sizing Method described in **Appendix III.3.1**.

Step 2: Verify that the Ponding Depth will Draw Down within 48 Hours

The ponding area drawdown time can be calculated using the following equation:

$DD_P = (d_P / K_{MEDIA}) \times 12$ in/ft

Where:

DD_P = time to drain ponded water, hours

d_P = depth of ponding above bioretention area, ft (not to exceed 1.5 ft)

K_{MEDIA} = media design infiltration rate, in/hr (equivalent to the media hydraulic conductivity with a factor of safety of 2; K_{MEDIA} of 2.5 in/hr should be used unless other information is available)

If the drawdown time exceeds 48 hours, adjust ponding depth and/or media infiltration rate until 48 hour drawdown time is achieved.

Step 3: Determine the Depth of Water Filtered During Design Capture Storm

The depth of water filtered during the design capture storm can be estimated as the amount routed through the media during the storm, or the ponding depth, whichever is smaller.

$d_{FILTERED}$ = Minimum [$((K_{MEDIA} \times T_{ROUTING})/12)$, d_P]

Where:

$d_{FILTERED}$ = depth of water that may be considered to be filtered during the design storm event, ft

K_{MEDIA} = media design infiltration rate, in/hr (equivalent to the media hydraulic conductivity with a factor of safety of 2; K_{MEDIA} of 2.5 in/hr should be used unless other information is available)

$T_{ROUTING}$ = storm duration that may be assumed for routing calculations; this should be assumed to be no greater than 3 hours. If the designer desires to account for further routing effects, the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs (See **Appendix III.3.2**) should be used.

d_P = depth of ponding above bioretention area, ft (not to exceed 1.5 ft)

Step 4: Determine the Facility Surface Area

$A = DCV / (d_P + d_{FILTERED})$

Where:

A = required area of bioretention facility, sq-ft

DCV = design capture volume, cu-ft

$d_{FILTERED}$ = depth of water that may be considered to be filtered during the design storm event, ft

d_P = depth of ponding above bioretention area, ft (not to exceed 1.5 ft)

Capture Efficiency Method for Bioretention with Underdrains

If the bioretention geometry has already been defined and the user wishes to account more explicitly for routing, the user can determine the required footprint area using the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs (See **Appendix III.3.2**) to determine the fraction of the DCV that must be provided to manage 80 percent of average annual runoff volume. This method accounts for drawdown time different than 48 hours.

Step 1: Determine the drawdown time associated with the selected basin geometry

$DD = (d_p / K_{DESIGN}) \times 12$ in/ft

Where:

DD = time to completely drain infiltration basin ponding depth, hours

d_P = bioretention ponding depth, ft (should be less than or equal to 1.5 ft)

K_{DESIGN} = design media infiltration rate, in/hr (assume 2.5 inches per hour unless otherwise proposed)

If drawdown is less than 3 hours, the drawdown time should be rounded to 3 hours or the Capture Efficiency Method for Flow-based BMPs (See **Appendix III.3.3**) shall be used.

Step 2: Determine the Required Adjusted DCV for this Drawdown Time

Use the Capture Efficiency Method for Volume-Based, Constant Drawdown BMPs (See **Appendix III.3.2**) to calculate the fraction of the DCV the basin must hold to achieve 80 percent capture of average annual stormwater runoff volume based on the basin drawdown time calculated above.

Step 3: Determine the Basin Infiltrating Area Needed

The required infiltrating area (i.e. the surface area of the top of the media layer) can be calculated using the following equation:

A = Design Volume / d_p

Where:

A = required infiltrating area, sq-ft (measured at the media surface)

Design Volume = fraction of DCV, adjusted for drawdown, cu-ft (see Step 2)

d_p = ponding depth of water stored in bioretention area, ft (from Step 1)

This does not include the side slopes, access roads, etc. which would increase bioretention footprint. If the area required is greater than the selected basin area, adjust surface area or adjust ponding depth and recalculate required area until the required area is achieved.

Configuration for Use in a Treatment Train

- Bioretention areas may be preceeded in a treatment train by HSCs in the drainage area, which would reduce the required design volume of the bioretention cell. For example, bioretention could be used to manage overflow from a cistern.
- Bioretention areas can be used to provide pretreatment for underground infiltration systems.

Additional References for Design Guidance

- CASQA BMP Handbook for New and Redevelopment: http://www.cabmphandbooks.com/Documents/Development/TC-32.pdf
- SMC LID Manual (pp 68): http://www.lowimpactdevelopment.org/guest75/pub/All_Projects/SoCal_LID_Manual/SoCalLID_Manual_FINAL_040910.pdf
- Los Angeles County Stormwater BMP Design and Maintenance Manual, Chapter 5: http://dpw.lacounty.gov/DES/design_manuals/StormwaterBMPDesignandMaintenance.pdf
- San Diego County LID Handbook Appendix 4 (Factsheet 7): http://www.sdcounty.ca.gov/dplu/docs/LID-Appendices.pdf

  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
- County of Los Angeles Low Impact Development Standards Manual, Chapter 5: http://dpw.lacounty.gov/wmd/LA_County_LID_Manual.pdf

HSC-3: Street Trees

By intercepting rainfall, trees can provide several aesthetic and stormwater benefits including peak flow control, increased infiltration and ET, and runoff temperature reduction. The volume of precipitation intercepted by the canopy reduces the treatment volume required for downstream treatment BMPs. Shading reduces the heat island effect as well as the temperature of adjacent impervious surfaces, over which stormwater flows, and thus reduces the heat transferred to downstream receiving waters. Tree roots also strengthen the soil structure and provide infiltrative pathways, simultaneously reducing erosion potential and enhancing infiltration.

Also known as:

- *Canopy interception*

Street trees
Source: Geosyntec Consultants

Feasibility Screening Considerations

- Not applicable

Opportunity Criteria

- Street trees can be incorporated in green streets designs along sidewalks, streets, parking lots, or driveways.
- Street trees can be used in combination with bioretention systems along medians or in traffic calming bays.
- There must be sufficient space available to accommodate both the tree canopy and root system.

OC-Specific Design Criteria and Considerations

☐ Mature tree canopy, height, and root system should not interfere with subsurface utilities, suspended powerlines, buildings and foundations, or other existing or planned structures. Required setbacks should be adhered to.

☐ Depending on space constarints, a 20 to 30 foot diameter canopy (at maturity) is recommended for stormwater mitigation.

☐ Native, drought-tolerant species should be selected in order to minimize irrigation requirements and improve the long-term viability of trees.

☐ Trees should not impede pedstrian or vehicle sight lines.

☐ Planting locations should receive adequate sunlight and wind protection; other environmental factors should be considered prior to planting.

☐ Frequency and degree of vegetation management and maintenance should be considered with respect to owner capabilities (e.g., staffing, funding, etc.).

☐ Soils should be preserved in their natural condition (if appropriate for planting) or restored via soil amendments to meet minimum criteria described in MISC-2: Amended Soils. If necessary, a landscape architect or plant biologist should be consulted.

☐ A street tree selection guide, such as that specific to the City of Los Angeles, may need to be consulted to select species appropriate for the site design constraints (e.g., parkway size, tree height, canopy spread, etc.)

☐ Infiltration should not cause geotechnical hazards related to adjacent structures (buildings,

PRE-2: Catch Basin Insert Fact Sheet

Catch basin inserts are manufactured filters or fabric placed in a drop inlet to remove sediment and debris and may include sorbent media (oil absorbent pouches) to remove floating oils and grease. Catch basin inserts are selected specifically based upon the orientation of the inlet and the expected sediment and debris loading.

Also known as:

- *Drop Inlet Filters*
- *Catch Basin Filters*

Catch Basin Insert (DrainPac™)

Opportunity Criteria

- Catch basin inserts come in such a wide range of configurations that it is practically impossible to generalize the expected performance. Inserts should mainly be used for catching coarse sediments and floatable trash and are effective as pretreatment in combination with other types of structures that are recognized as water quality treatment BMPs. Trash and large objects can greatly reduce the effectiveness of catch basin inserts with respect to sediment and hydrocarbon capture.
- Catch basin inserts are applicable for drainage area that include parking lots, vehicle maintenance areas, and roadways with catch basins that discharge directly to a receiving water.

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 of catch basin inserts.

☐ Catch basin inserts can be installed with specific media for pollutants of concern.

Proprietary Manufacturer / Supplier Websites

- **Table XIV.2** is a list of manufacturers that provide catch basin inserts. The inclusion of these manufacturers does not represent an endorse of their products. Other devices and manufacturers may be acceptable for pretreatment.

Table XIV.2: Proprietary Catch Basin Insert Manufacturer Websites

Device	Manufacturer	Website
AbTech Industries Ultra-Urban Filter™	AbTech Industries	www.abtechindustries.com
Aquashield Aqua-Guardian™ Catch Basin Insert	Aquashield™ Inc.	www.aquashieldinc.com
Bowhead StreamGuard™	Bowhead Environmental & Safety, Inc.	http://www.shopbowhead.com/
Contech® Triton Catch Basin Filter™	Contech® Construction Products Inc.	www.contech-cpi.com
Contech® Triton Curb Inlet Filter™	Contech® Construction Products Inc.	www.contech-cpi.com

Table XIV.2: Proprietary Catch Basin Insert Manufacturer Websites

Device	Manufacturer	Website
Contech® Triton Basin StormFilter™	Contech® Construction Products Inc.	www.contech-cpi.com
Contech® Curb Inlet StormFilter™	Contech® Construction Products Inc.	www.contech-cpi.com
Curb Inlet Basket	SunTree Technologies Inc.	www.suntreetech.com
Curb Inlet Grates	EcoSense International™	http://www.ecosenseint.com/
DrainPac™	United Storm Water, Inc.	http://www.unitedstormwater.com
Grate Inlet Skimmer Box	SunTree Technologies Inc.	www.suntreetech.com
KriStar FloGard+PLUS®	KriStar Enterprises Inc.	www.kristar.com
KriStar FloGard®	KriStar Enterprises Inc.	www.kristar.com
KriStar FloGard LoPro Matrix Filter®	KriStar Enterprises Inc.	www.kristar.com
Nyloplast Storm-PURE Catch Basin Insert	Nyloplast Engineered Surface Drainage Products	www.nyloplast-us.com
StormBasin®	FabCo® Industries Inc.	www.fabco-industries.com
Stormdrain Solutions Interceptor	FabCo® Industries Inc.	www.fabco-industries.com
Stormdrain Solutions Inceptor®	Stormdrain Solutions	www.stormdrains.com
StormPod®	FabCo® Industries Inc.	www.fabco-industries.com
Stormwater Filtration Systems	EcoSense International™	http://www.ecosenseint.com/
Ultra-CurbGuard®	UltraTech International Inc.	www.spillcontainment.com
Ultra-DrainGuard®	UltraTech International Inc.	www.spillcontainment.com
Ultra-GrateGuard®	UltraTech International Inc.	www.spillcontainment.com
Ultra-GutterGuard®	UltraTech International Inc.	www.spillcontainment.com
Ultra-InletGuard®	UltraTech International Inc.	www.spillcontainment.com

Spill Prevention, Control & Cleanup SC-11

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Description

Spills and leaks, if not properly controlled, can adversely impact the storm drain system and receiving waters. Due to the type of work or the materials involved, many activities that occur either at a municipal facility or as a part of municipal field programs have the potential for accidental spills and leaks. Proper spill response planning and preparation can enable municipal employees to effectively respond to problems when they occur and minimize the discharge of pollutants to the environment.

Targeted Constituents

Sediment	
Nutrients	☑
Trash	
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Approach

- An effective spill response and control plan should include:
  - Spill/leak prevention measures;
  - Spill response procedures;
  - Spill cleanup procedures;
  - Reporting; and
  - Training
- A well thought out and implemented plan can prevent pollutants from entering the storm drainage system and can be used as a tool for training personnel to prevent and control future spills as well.

Pollution Prevention

- Develop and implement a Spill Prevention Control and Response Plan. The plan should include:

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- A description of the facility, the address, activities and materials involved
- Identification of key spill response personnel
- Identification of the potential spill areas or operations prone to spills/leaks
- Identification of which areas should be or are bermed to contain spills/leaks
- Facility map identifying the key locations of areas, activities, materials, structural BMPs, etc.
- Material handling procedures
- Spill response procedures including:
    - Assessment of the site and potential impacts
    - Containment of the material
    - Notification of the proper personnel and evacuation procedures
    - Clean up of the site
    - Disposal of the waste material and
    - Proper record keeping

- Product substitution – use less toxic materials (i.e. use water based paints instead of oil based paints)
- Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of materials that are brought into the facility or into the field.

Suggested Protocols

Spill/Leak Prevention Measures

- If possible, move material handling indoors, under cover, or away from storm drains or sensitive water bodies.
- Properly label all containers so that the contents are easily identifiable.
- Berm storage areas so that if a spill or leak occurs, the material is contained.
- Cover outside storage areas either with a permanent structure or with a seasonal one such as a tarp so that rain can not come into contact with the materials.
- Check containers (and any containment sumps) often for leaks and spills. Replace containers that are leaking, corroded, or otherwise deteriorating with containers in good condition. Collect all spilled liquids and properly dispose of them.

- Store, contain and transfer liquid materials in such a manner that if the container is ruptured or the contents spilled, they will not discharge, flow or be washed into the storm drainage system, surface waters, or groundwater.

- Place drip pans or absorbent materials beneath all mounted taps and at all potential drip and spill locations during the filling and unloading of containers. Any collected liquids or soiled absorbent materials should be reused/recycled or properly disposed of.

- For field programs, only transport the minimum amount of material needed for the daily activities and transfer materials between containers at a municipal yard where leaks and spill are easier to control.

- If paved, sweep and clean storage areas monthly, do not use water to hose down the area unless all of the water will be collected and disposed of properly.

- Install a spill control device (such as a tee section) in any catch basins that collect runoff from any storage areas if the materials stored are oil, gas, or other materials that separate from and float on water. This will allow for easier cleanup if a spill occurs.

- If necessary, protect catch basins while conducting field activities so that if a spill occurs, the material will be contained.

Training

- Educate employees about spill prevention, spill response and cleanup on a routine basis.

- Well-trained employees can reduce human errors that lead to accidental releases or spills:

  - The employees should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

  - Employees should be familiar with the Spill Prevention Control and Countermeasure Plan if one is available.

- Training of staff from all municipal departments should focus on recognizing and reporting potential or current spills/leaks and who they should contact.

- Employees responsible for aboveground storage tanks and liquid transfers for large bulk containers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.

Spill Response and Prevention

- Identify key spill response personnel and train employees on who they are.

- Store and maintain appropriate spill cleanup materials in a clearly marked location near storage areas; and train employees to ensure familiarity with the site's spill control plan and/or proper spill cleanup procedures.

- Locate spill cleanup materials, such as absorbents, where they will be readily accessible (e.g. near storage and maintenance areas, on field trucks).

SC-11 Spill Prevention, Control & Cleanup

- Follow the Spill Prevention Control and Countermeasure Plan if one is available.
- If a spill occurs, notify the key spill response personnel immediately. If the material is unknown or hazardous, the local fire department may also need to be contacted.
- If safe to do so, attempt to contain the material and block the nearby storm drains so that the area impacted is minimized. If the material is unknown or hazardous wait for properly trained personnel to contain the materials.
- Perform an assessment of the area where the spill occurred and the downstream area that it could impact. Relay this information to the key spill response and clean up personnel.

Spill Cleanup Procedures

- Small non-hazardous spills
  - Use a rag, damp cloth or absorbent materials for general clean up of liquids
  - Use brooms or shovels for the general clean up of dry materials
  - If water is used, it must be collected and properly disposed of. The wash water can not be allowed to enter the storm drain.
  - Dispose of any waste materials properly
  - Clean or dispose of any equipment used to clean up the spill properly
- Large non-hazardous spills
  - Use absorbent materials for general clean up of liquids
  - Use brooms, shovels or street sweepers for the general clean up of dry materials
  - If water is used, it must be collected and properly disposed of. The wash water can not be allowed to enter the storm drain.
  - Dispose of any waste materials properly
  - Clean or dispose of any equipment used to clean up the spill properly
- For hazardous or very large spills, a private cleanup company or Hazmat team may need to be contacted to assess the situation and conduct the cleanup and disposal of the materials.
- Chemical cleanups of material can be achieved with the use of absorbents, gels, and foams. Remove the adsorbent materials promptly and dispose of according to regulations.
- If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.

Reporting

- Report any spills immediately to the identified key municipal spill response personnel.

- Report spills in accordance with applicable reporting laws. Spills that pose an immediate threat to human health or the environment must be reported immediately to the Office of Emergency Service (OES)

- Spills that pose an immediate threat to human health or the environment may also need to be reported within 24 hours to the Regional Water Quality Control Board.

- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour)

- After the spill has been contained and cleaned up, a detailed report about the incident should be generated and kept on file (see the section on Reporting below). The incident may also be used in briefing staff about proper procedures

Other Considerations

- State regulations exist for facilities with a storage capacity of 10,000 gallons or more of petroleum to prepare a Spill Prevention Control and Countermeasure Plan (SPCC) Plan (Health & Safety Code Chapter 6.67).

- State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.

- Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, if permitted to do so, prohibiting any hard connections to the storm drain.

Requirements

Costs

- Will vary depending on the size of the facility and the necessary controls.

- Prevention of leaks and spills is inexpensive. Treatment and/or disposal of wastes, contaminated soil and water is very expensive

Maintenance

- This BMP has no major administrative or staffing requirements. However, extra time is needed to properly handle and dispose of spills, which results in increased labor costs

Supplemental Information

Further Detail of the BMP

Reporting

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the response and containment of a spill. A good record keeping system helps the municipality minimize incident recurrence, correctly respond with appropriate containment and cleanup activities, and comply with legal requirements.

A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm drain.

These records should contain the following information:

- Date and time of the incident
- Weather conditions
- Duration of the spill/leak/discharge
- Cause of the spill/leak/discharge
- Response procedures implemented
- Persons notified
- Environmental problems associated with the spill/leak/discharge

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- The date and time the inspection was performed
- Name of the inspector
- Items inspected
- Problems noted
- Corrective action required
- Date corrective action was taken

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

Examples

The City of Palo Alto includes spill prevention and control as a major element of its highly effective program for municipal vehicle maintenance shops.

References and Resources

King County Stormwater Pollution Control Manual - http://dnr.metrokc.gov/wlr/dss/spcm.htm

Orange County Stormwater Program
http://www.ocwatersheds.com/stormwater/swp_introduction.asp

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP)
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Parking/Storage Area Maintenance SC-43

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Parking lots and storage areas can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The following protocols are intended to prevent or reduce the discharge of pollutants from parking/storage areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

Approach

Pollution Prevention

- Encourage alternative designs and maintenance strategies for impervious parking lots. (See New Development and Redevelopment BMP Handbook).
- Keep accurate maintenance logs to evaluate BMP implementation.

Suggested Protocols

General

- Keep the parking and storage areas clean and orderly. Remove debris in a timely fashion.
- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low concentrations.

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- Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- Design lot to include semi-permeable hardscape.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide an adequate number of litter receptacles.
- Clean out and cover litter receptacles frequently to prevent spillage.
- Provide trash receptacles in parking lots to discourage litter.
- Routinely sweep, shovel and dispose of litter in the trash.

Surface cleaning

- Use dry cleaning methods (e.g. sweeping or vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system.
- Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- Sweep all parking lots at least once before the onset of the wet season.
- If water is used follow the procedures below:
  - Block the storm drain or contain runoff.
  - Wash water should be collected and pumped to the sanitary sewer or discharged to a pervious surface, do not allow wash water to enter storm drains.
  - Dispose of parking lot sweeping debris and dirt at a landfill.
- When cleaning heavy oily deposits:
  - Use absorbent materials on oily spots prior to sweeping or washing.
  - Dispose of used absorbents appropriately.

Surface Repair

- Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff.
- Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc., where applicable. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.

- Use only as much water as necessary for dust control, to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Inspection

- Have designated personnel conduct inspections of the parking facilities and stormwater conveyance systems associated with them on a regular basis.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

Training

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, nad implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Limitations related to sweeping activities at large parking facilities may include high equipment costs, the need for sweeper operator training, and the inability of current sweeper technology to remove oil and grease.

Requirements

Costs

Cleaning/sweeping costs can be quite large, construction and maintenance of stormwater structural controls can be quite expensive as well.

Maintenance

- Sweep parking lot to minimize cleaning with water.
- Clean out oil/water/sand separators regularly, especially after heavy storms.
- Clean parking facilities on a regular basis to prevent accumulated wastes and pollutants from being discharged into conveyance systems during rainy conditions.

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Supplemental Information

Further Detail of the BMP

Surface Repair

Apply concrete, asphalt, and seal coat during dry weather to prevent contamination form contacting stormwater runoff. Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal. Use only as much water as necessary for dust control, to avoid runoff.

References and Resources

http://www.stormwatercenter.net/

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Orange County Stormwater Program
http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA) http://www.basma.org

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP)
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Housekeeping Practices SC-60

Description

Promote efficient and safe housekeeping practices (storage, use, and cleanup) when handling potentially harmful materials such as fertilizers, pesticides, cleaning solutions, paint products, automotive products, and swimming pool chemicals. Related information is provided in BMP fact sheets SC-11 Spill Prevention, Control & Cleanup and SC-34 Waste Handling & Disposal.

Approach

Pollution Prevention

- Purchase only the amount of material that will be needed for foreseeable use. In most cases this will result in cost savings in both purchasing and disposal. See SC-61 Safer Alternative Products for additional information.
- Be aware of new products that may do the same job with less environmental risk and for less or the equivalent cost. Total cost must be used here; this includes purchase price, transportation costs, storage costs, use related costs, clean up costs and disposal costs.

Suggested Protocols

General

- Keep work sites clean and orderly. Remove debris in a timely fashion. Sweep the area.
- Dispose of wash water, sweepings, and sediments, properly.
- Recycle or dispose of fluids properly.
- Establish a daily checklist of office, yard and plant areas to confirm cleanliness and adherence to proper storage and security. Specific employees should be assigned specific inspection responsibilities and given the authority to remedy any problems found.
- Post waste disposal charts in appropriate locations detailing for each waste its hazardous nature (poison, corrosive, flammable), prohibitions on its disposal (dumpster, drain, sewer) and the recommended disposal method (recycle, sewer, burn, storage, landfill).
- Summarize the chosen BMPs applicable to your operation and post them in appropriate conspicuous places.

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

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- Require a signed checklist from every user of any hazardous material detailing amount taken, amount used, amount returned and disposal of spent material.
- Do a before audit of your site to establish baseline conditions and regular subsequent audits to note any changes and whether conditions are improving or deteriorating.
- Keep records of water, air and solid waste quantities and quality tests and their disposition.
- Maintain a mass balance of incoming, outgoing and on hand materials so you know when there are unknown losses that need to be tracked down and accounted for.
- Use and reward employee suggestions related to BMPs, hazards, pollution reduction, work place safety, cost reduction, alternative materials and procedures, recycling and disposal.
- Have, and review regularly, a contingency plan for spills, leaks, weather extremes etc. Make sure all employees know about it and what their role is so that it comes into force automatically.

Training

- Train all employees, management, office, yard, manufacturing, field and clerical in BMPs and pollution prevention and make them accountable.
- Train municipal employees who handle potentially harmful materials in good housekeeping practices.
- Train personnel who use pesticides in the proper use of the pesticides. The California Department of Pesticide Regulation license pesticide dealers, certify pesticide applicators and conduct onsite inspections.
- Train employees and contractors in proper techniques for spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and Countermeasure (SPCC) plant up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- There are no major limitations to this best management practice.
- There are no regulatory requirements to this BMP. Existing regulations already require municipalities to properly store, use, and dispose of hazardous materials

Requirements

Costs

- Minimal cost associated with this BMP. Implementation of good housekeeping practices may result in cost savings as these procedures may reduce the need for more costly BMPs.

Maintenance

- Ongoing maintenance required to keep a clean site. Level of effort is a function of site size and type of activities.

Supplemental Information

Further Detail of the BMP

- The California Integrated Waste Management Board's Recycling Hotline, 1-800-553-2962, provides information on household hazardous waste collection programs and facilities.

Examples

There are a number of communities with effective programs. The most pro-active include Santa Clara County and the City of Palo Alto, the City and County of San Francisco, and the Municipality of Metropolitan Seattle (Metro).

References and Resources

British Columbia Lake Stewardship Society. Best Management Practices to Protect Water Quality from Non-Point Source Pollution. March 2000.
http://www.nalms.org/bclss/bmphome.html#bmp

King County Stormwater Pollution Control Manual - http://dnr.metrokc.gov/wlr/dss/spcm.htm

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities, Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July, 1998, Revised by California Coastal Commission, February 2002.

Orange County Stormwater Program
http://www.ocwatersheds.com/stormwater/swp_introduction.asp

San Mateo STOPPP - (http://stoppp.tripod.com/bmp.html)

Road and Street Maintenance SC-70

Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Streets, roads, and highways are significant sources of pollutants in stormwater discharges, and operation and maintenance (O&M) practices, if not conducted properly, can contribute to the problem. Stormwater pollution from roadway and bridge maintenance should be addressed on a site-specific basis. Use of the procedures outlined below, that address street sweeping and repair, bridge and structure maintenance, and unpaved roads will reduce pollutants in stormwater.

Approach

Pollution Prevention

- Use the least toxic materials available (e.g. water based paints, gels or sprays for graffiti removal)
- Recycle paint and other materials whenever possible.
- Enlist the help of citizens to keep yard waste, used oil, and other wastes out of the gutter.

Suggested Protocols

Street Sweeping and Cleaning

- Maintain a consistent sweeping schedule. Provide minimum monthly sweeping of curbed streets.
- Perform street cleaning during dry weather if possible.

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- Avoid wet cleaning or flushing of street, and utilize dry methods where possible.
- Consider increasing sweeping frequency based on factors such as traffic volume, land use, field observations of sediment and trash accumulation, proximity to water courses, etc. For example:
  - Increase the sweeping frequency for streets with high pollutant loadings, especially in high traffic and industrial areas.
  - Increase the sweeping frequency just before the wet season to remove sediments accumulated during the summer.
  - Increase the sweeping frequency for streets in special problem areas such as special events, high litter or erosion zones.
- Maintain cleaning equipment in good working condition and purchase replacement equipment as needed. Old sweepers should be replaced with new technologically advanced sweepers (preferably regenerative air sweepers) that maximize pollutant removal.
- Operate sweepers at manufacturer requested optimal speed levels to increase effectiveness.
- To increase sweeping effectiveness consider the following:
  - Institute a parking policy to restrict parking in problematic areas during periods of street sweeping.
  - Post permanent street sweeping signs in problematic areas; use temporary signs if installation of permanent signs is not possible.
  - Develop and distribute flyers notifying residents of street sweeping schedules.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- If available use vacuum or regenerative air sweepers in the high sediment and trash areas (typically industrial/commercial).
- Keep accurate logs of the number of curb-miles swept and the amount of waste collected.
- Dispose of street sweeping debris and dirt at a landfill.
- Do not store swept material along the side of the street or near a storm drain inlet.
- Keep debris storage to a minimum during the wet season or make sure debris piles are contained (e.g. by berming the area) or covered (e.g. with tarps or permanent covers).

Street Repair and Maintenance

Pavement marking

- Schedule pavement marking activities for dry weather.

- Develop paint handling procedures for proper use, storage, and disposal of paints.
- Transfer and load paint and hot thermoplastic away from storm drain inlets.
- Provide drop cloths and drip pans in paint mixing areas.
- Properly maintain application equipment.
- Street sweep thermoplastic grindings. Yellow thermoplastic grindings may require special handling as they may contain lead.
- Paints containing lead or tributyltin are considered a hazardous waste and must be disposed of properly.
- Use water based paints whenever possible. If using water based paints, clean the application equipment in a sink that is connected to the sanitary sewer.
- Properly store leftover paints if they are to be kept for the next job, or dispose of properly.

Concrete installation and repair

- Schedule asphalt and concrete activities for dry weather.
- Take measures to protect any nearby storm drain inlets and adjacent watercourses, prior to breaking up asphalt or concrete (e.g. place san bags around inlets or work areas).
- Limit the amount of fresh concrete or cement mortar mixed, mix only what is needed for the job.
- Store concrete materials under cover, away from drainage areas. Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- Return leftover materials to the transit mixer. Dispose of small amounts of hardened excess concrete, grout, and mortar in the trash.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile, or dispose in the trash.
- When making saw cuts in pavement, use as little water as possible and perform during dry weather. Cover each storm drain inlet completely with filter fabric or plastic during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site. Alternatively, a small onsite vacuum may be used to pick up the slurry as this will prohibit slurry from reaching storm drain inlets.
- Wash concrete trucks off site or in designated areas on site designed to preclude discharge of wash water to drainage system.

Patching, resurfacing, and surface sealing

- Schedule patching, resurfacing and surface sealing for dry weather.
- Stockpile materials away from streets, gutter areas, storm drain inlets or watercourses. During wet weather, cover stockpiles with plastic tarps or berm around them if necessary to prevent transport of materials in runoff.
- Pre-heat, transfer or load hot bituminous material away from drainage systems or watercourses.
- Where applicable, cover and seal nearby storm drain inlets (with waterproof material or mesh) and maintenance holes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from covered maintenance holes and storm drain inlets when the job is complete.
- Prevent excess material from exposed aggregate concrete or similar treatments from entering streets or storm drain inlets. Designate an area for clean up and proper disposal of excess materials.
- Use only as much water as necessary for dust control, to avoid runoff.
- Sweep, never hose down streets to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquid in storm drains.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

Equipment cleaning maintenance and storage

- Inspect equipment daily and repair any leaks. Place drip pans or absorbent materials under heavy equipment when not in use.
- Perform major equipment repairs at the corporation yard, when practical.
- If refueling or repairing vehicles and equipment must be done onsite, use a location away from storm drain inlets and watercourses.
- Clean equipment including sprayers, sprayer paint supply lines, patch and paving equipment, and mud jacking equipment at the end of each day. Clean in a sink or other area (e.g. vehicle wash area) that is connected to the sanitary sewer.

Bridge and Structure Maintenance

Paint and Paint Removal

- Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
- Do not transfer or load paint near storm drain inlets or watercourses.

- Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint container.
- Plug nearby storm drain inlets prior to starting painting where there is significant risk of a spill reaching storm drains. Remove plugs when job is completed.
- If sand blasting is used to remove paint, cover nearby storm drain inlets prior to starting work.
- Perform work on a maintenance traveler or platform, or use suspended netting or tarps to capture paint, rust, paint removing agents, or other materials, to prevent discharge of materials to surface waters if the bridge crosses a watercourse. If sanding, use a sander with a vacuum filter bag.
- Capture all clean-up water, and dispose of properly.
- Recycle paint when possible (e.g. paint may be used for graffiti removal activities). Dispose of unused paint at an appropriate household hazardous waste facility.

Graffiti Removal

- Schedule graffiti removal activities for dry weather.
- Protect nearby storm drain inlets prior to removing graffiti from walls, signs, sidewalks, or other structures needing graffiti abatement. Clean up afterwards by sweeping or vacuuming thoroughly, and/or by using absorbent and properly disposing of the absorbent.
- When graffiti is removed by painting over, implement the procedures under Painting and Paint Removal above.
- Direct runoff from sand blasting and high pressure washing (with no cleaning agents) into a landscaped or dirt area. If such an area is not available, filter runoff through an appropriate filtering device (e.g. filter fabric) to keep sand, particles, and debris out of storm drains.
- If a graffiti abatement method generates wash water containing a cleaning compound (such as high pressure washing with a cleaning compound), plug nearby storm drains and vacuum/pump wash water to the sanitary sewer.
- Consider using a waterless and non-toxic chemical cleaning method for graffiti removal (e.g. gels or spray compounds).

Repair Work

- Prevent concrete, steel, wood, metal parts, tools, or other work materials from entering storm drains or watercourses.
- Thoroughly clean up the job site when the repair work is completed.
- When cleaning guardrails or fences follow the appropriate surface cleaning methods (depending on the type of surface) outlined in SC-71 Plaza & Sidewalk Cleaning fact sheet.

- If painting is conducted, follow the painting and paint removal procedures above.
- If graffiti removal is conducted, follow the graffiti removal procedures above.
- If construction takes place, see the Construction Activity BMP Handbook.
- Recycle materials whenever possible.

Unpaved Roads and Trails

- Stabilize exposed soil areas to prevent soil from eroding during rain events. This is particularly important on steep slopes.
- For roadside areas with exposed soils, the most cost-effective choice is to vegetate the area, preferably with a mulch or binder that will hold the soils in place while the vegetation is establishing. Native vegetation should be used if possible.
- If vegetation cannot be established immediately, apply temporary erosion control mats/blankets; a comma straw, or gravel as appropriate.
- If sediment is already eroded and mobilized in roadside areas, temporary controls should be installed. These may include: sediment control fences, fabric-covered triangular dikes, gravel-filled burlap bags, biobags, or hay bales staked in place.

Non-Stormwater Discharges

Field crews should be aware of non-stormwater discharges as part of their ongoing street maintenance efforts.

- Refer to SC-10 Non-Stormwater Discharges
- Identify location, time and estimated quantity of discharges.
- Notify appropriate personnel.

Training

- Train employees regarding proper street sweeping operation and street repair and maintenance.
- Instruct employees and subcontractors to ensure that measures to reduce the stormwater impacts of roadway/bridge maintenance are being followed.
- Require engineering staff and/or consulting A/E firms to address stormwater quality in new bridge designs or existing bridge retrofits.
- Use a training log or similar method to document training.
- Train employees on proper spill containment and clean up, and in identifying non-stormwater discharges.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Densely populated areas or heavily used streets may require parking regulations to clear streets for cleaning.
- No currently available conventional sweeper is effective at removing oil and grease. Mechanical sweepers are not effective at removing finer sediments.
- Limitations may arise in the location of new bridges. The availability and cost of land and other economic and political factors may dictate where the placement of a new bridge will occur. Better design of the bridge to control runoff is required if it is being placed near sensitive waters.

Requirements

Costs

- The maintenance of local roads and bridges is already a consideration of most community public works or transportation departments. Therefore, the cost of pollutant reducing management practices will involve the training and equipment required to implement these new practices.
- The largest expenditures for street sweeping programs are in staffing and equipment. The capital cost for a conventional street sweeper is between $60,000 and $120,000. Newer technologies might have prices approaching $180,000. The average useful life of a conventional sweeper is about four years, and programs must budget for equipment replacement. Sweeping frequencies will determine equipment life, so programs that sweep more often should expect to have a higher cost of replacement.
- A street sweeping program may require the following.
  - Sweeper operators, maintenance, supervisory, and administrative personnel are required.
  - Traffic control officers may be required to enforce parking restrictions.
  - Skillful design of cleaning routes is required for program to be productive.
  - Arrangements must be made for disposal of collected wastes.

- If investing in newer technologies, training for operators must be included in operation and maintenance budgets. Costs for public education are small, and mostly deal with the need to obey parking restrictions and litter control. Parking tickets are an effective reminder to obey parking rules, as well as being a source of revenue.

Maintenance

- Not applicable

Supplemental Information

Further Detail of the BMP

Street sweeping

There are advantages and disadvantages to the two common types of sweepers. The best choice depends on your specific conditions. Many communities find it useful to have a compliment of both types in their fleet.

Mechanical Broom Sweepers - More effective at picking up large debris and cleaning wet streets. Less costly to purchase and operate. Create more airborne dust.

Vacuum Sweepers - More effective at removing fine particles and associated heavy metals. Ineffective at cleaning wet streets. Noisier than mechanical broom sweepers which may restrict areas or times of operation. May require an advance vehicle to remove large debris.

Street Flushers - Not affected by biggest interference to cleaning, parked cars. May remove finer sediments, moving them toward the gutter and stormwater inlets. For this reason, flushing fell out of favor and is now used primarily after sweeping. Flushing may be effective for combined sewer systems. Presently street flushing is not allowed under most NPDES permits.

Cross-Media Transfer of Pollutants

The California Air Resources Board (ARB) has established state ambient air quality standards including a standard for respirable particulate matter (less than or equal to 10 microns in diameter, symbolized as PM10). In the effort to sweep up finer sediments to remove attached heavy metals, municipalities should be aware that fine dust, that cannot be captured by the sweeping equipment and becomes airborne, could lead to issues of worker and public safety.

Bridges

Bridges that carry vehicular traffic generate some of the more direct discharges of runoff to surface waters. Bridge scupper drains cause a direct discharge of stormwater into receiving waters and have been shown to carry relatively high concentrations of pollutants. Bridge maintenance also generates wastes that may be either directly deposited to the water below or carried to the receiving water by stormwater. The following steps will help reduce the stormwater impacts of bridge maintenance:

- Site new bridges so that significant adverse impacts to wetlands, sensitive areas, critical habitat, and riparian vegetation are minimized.

- Design new bridges to avoid the use of scupper drains and route runoff to land for treatment control. Existing scupper drains should be cleaned on a regular basis to avoid sediment/debris accumulation.

- Reduce the discharge of pollutants to surface waters during maintenance by using suspended traps, vacuums, or booms in the water to capture paint, rust, and paint removing agents. Many of these wastes may be hazardous. Properly dispose of this waste by referring to CA21 (Hazardous Waste Management) in the Construction Handbook.

- Train employees and subcontractors to reduce the discharge of wastes during bridge maintenance.

De-icing

- Do not over-apply deicing salt and sand, and routinely calibrate spreaders.

- Near reservoirs, restrict the application of deicing salt and redirect any runoff away from reservoirs.

- Consider using alternative deicing agents (less toxic, biodegradable, etc.).

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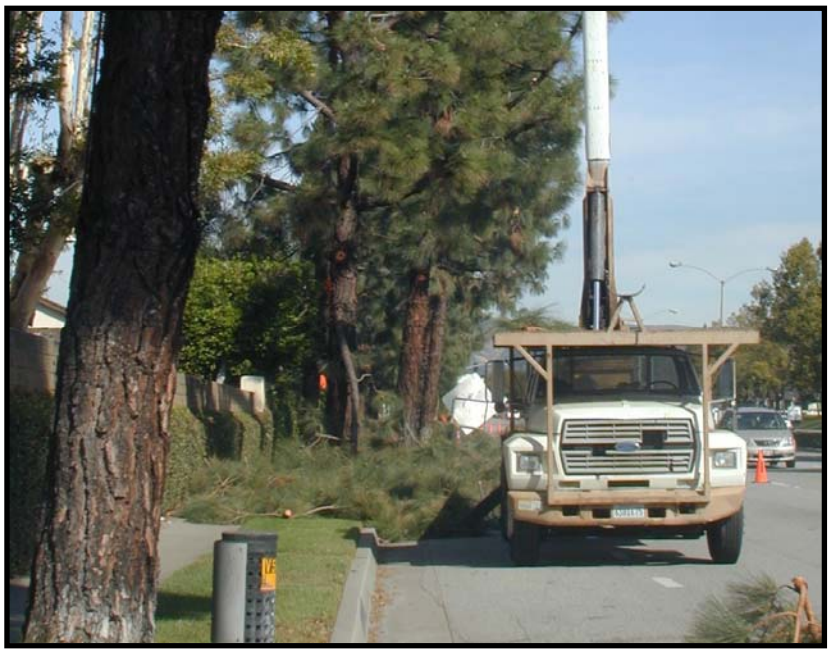
Landscape Maintenance SC-73



Objectives

- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	
Bacteria	
Oil and Grease	
Organics	
Oxygen Demanding	☑

Description

Landscape maintenance activities include vegetation removal; herbicide and insecticide application; fertilizer application; watering; and other gardening and lawn care practices. Vegetation control typically involves a combination of chemical (herbicide) application and mechanical methods. All of these maintenance practices have the potential to contribute pollutants to the storm drain system. The major objectives of this BMP are to minimize the discharge of pesticides, herbicides and fertilizers to the storm drain system and receiving waters; prevent the disposal of landscape waste into the storm drain system by collecting and properly disposing of clippings and cuttings, and educating employees and the public.

Approach

Pollution Prevention

- Implement an integrated pest management (IPM) program. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Consider alternative landscaping techniques such as naturescaping and xeriscaping.
- Conduct appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) to help preserve the landscapes water efficiency.

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- Consider grass cycling (grass cycling is the natural recycling of grass by leaving the clippings on the lawn when mowing. Grass clippings decompose quickly and release valuable nutrients back into the lawn).

Suggested Protocols

Mowing, Trimming, and Weeding

- Whenever possible use mechanical methods of vegetation removal (e.g mowing with tractor-type or push mowers, hand cutting with gas or electric powered weed trimmers) rather than applying herbicides. Use hand weeding where practical.
- Avoid loosening the soil when conducting mechanical or manual weed control, this could lead to erosion. Use mulch or other erosion control measures when soils are exposed.
- Performing mowing at optimal times. Mowing should not be performed if significant rain events are predicted.
- Mulching mowers may be recommended for certain flat areas. Other techniques may be employed to minimize mowing such as selective vegetative planting using low maintenance grasses and shrubs.
- Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill (see waste management section of this fact sheet).
- Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

Planting

- Determine existing native vegetation features (location, species, size, function, importance) and consider the feasibility of protecting them. Consider elements such as their effect on drainage and erosion, hardiness, maintenance requirements, and possible conflicts between preserving vegetation and the resulting maintenance needs.
- Retain and/or plant selected native vegetation whose features are determined to be beneficial, where feasible. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting new vegetation.
- Consider using low water use groundcovers when planting or replanting.

Waste Management

- Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.

- Avoid landscape wastes in and around storm drain inlets by either using bagging equipment or by manually picking up the material.

Irrigation

- Where practical, use automatic timers to minimize runoff.
- Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that reduce water flow to sprinkler heads if broken.
- Ensure that there is no runoff from the landscaped area(s) if re-claimed water is used for irrigation.
- If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour over landscaped areas.
- Irrigate slowly or pulse irrigate to prevent runoff and then only irrigate as much as is needed.
- Apply water at rates that do not exceed the infiltration rate of the soil.

Fertilizer and Pesticide Management

- Utilize a comprehensive management system that incorporates integrated pest management (IPM) techniques. There are many methods and types of IPM, including the following:
  - Mulching can be used to prevent weeds where turf is absent, fencing installed to keep rodents out, and netting used to keep birds and insects away from leaves and fruit.
  - Visible insects can be removed by hand (with gloves or tweezers) and placed in soapy water or vegetable oil. Alternatively, insects can be sprayed off the plant with water or in some cases vacuumed off of larger plants.
  - Store-bought traps, such as species-specific, pheromone-based traps or colored sticky cards, can be used.
  - Slugs can be trapped in small cups filled with beer that are set in the ground so the slugs can get in easily.
  - In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
  - Small mammals and birds can be excluded using fences, netting, tree trunk guards.
  - Beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seed head weevils, and spiders that prey on detrimental pest species can be promoted.
- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.

- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule).
- Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).
- Do not mix or prepare pesticides for application near storm drains.
- Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Dispose of empty pesticide containers according to the instructions on the container label.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- Inspect pesticide/fertilizer equipment and transportation vehicles daily.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution. Pesticide application must be under the supervision of a California qualified pesticide applicator.
- Train/encourage municipal maintenance crews to use IPM techniques for managing public green areas.
- Annually train employees within departments responsible for pesticide application on the appropriate portions of the agency's IPM Policy, SOPs, and BMPs, and the latest IPM techniques.

- Employees who are not authorized and trained to apply pesticides should be periodically (at least annually) informed that they cannot use over-the-counter pesticides in or around the workplace.
- Use a training log or similar method to document training.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup
- Have spill cleanup materials readily available and in a know in location
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- The Federal Pesticide, Fungicide, and Rodenticide Act and California Title 3, Division 6, Pesticides and Pest Control Operations place strict controls over pesticide application and handling and specify training, annual refresher, and testing requirements. The regulations generally cover: a list of approved pesticides and selected uses, updated regularly; general application information; equipment use and maintenance procedures; and record keeping. The California Department of Pesticide Regulations and the County Agricultural Commission coordinate and maintain the licensing and certification programs. All public agency employees who apply pesticides and herbicides in "agricultural use" areas such as parks, golf courses, rights-of-way and recreation areas should be properly certified in accordance with state regulations. Contracts for landscape maintenance should include similar requirements.
- All employees who handle pesticides should be familiar with the most recent material safety data sheet (MSDS) files.
- Municipalities do not have the authority to regulate the use of pesticides by school districts, however the California Healthy Schools Act of 2000 (AB 2260) has imposed requirements on California school districts regarding pesticide use in schools. Posting of notification prior to the application of pesticides is now required, and IPM is stated as the preferred approach to pest management in schools.

Requirements

Costs

Additional training of municipal employees will be required to address IPM techniques and BMPs. IPM methods will likely increase labor cost for pest control which may be offset by lower chemical costs.

Maintenance

Not applicable

Supplemental Information

Further Detail of the BMP

Waste Management

Composting is one of the better disposal alternatives if locally available. Most municipalities either have or are planning yard waste composting facilities as a means of reducing the amount of waste going to the landfill. Lawn clippings from municipal maintenance programs as well as private sources would probably be compatible with most composting facilities

Contractors and Other Pesticide Users

Municipal agencies should develop and implement a process to ensure that any contractor employed to conduct pest control and pesticide application on municipal property engages in pest control methods consistent with the IPM Policy adopted by the agency. Specifically, municipalities should require contractors to follow the agency's IPM policy, SOPs, and BMPs; provide evidence to the agency of having received training on current IPM techniques when feasible; provide documentation of pesticide use on agency property to the agency in a timely manner.

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Drainage System Maintenance SC-74

Photo Credit: Geoff Brosseau

Objectives

- Contain
- Educate
- Reduce/Minimize

Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff that may contain certain pollutants. Maintaining catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis will remove pollutants, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Approach

Suggested Protocols

Catch Basins/Inlet Structures

- Municipal staff should regularly inspect facilities to ensure the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC-75 Waste Handling and Disposal).
- Clean catch basins, storm drain inlets, and other conveyance structures in high pollutant load areas just before the wet season to remove sediments and debris accumulated during the summer.

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- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Record the amount of waste collected.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed of. Do not dewater near a storm drain or stream.
- Except for small communities with relatively few catch basins that may be cleaned manually, most municipalities will require mechanical cleaners such as eductors, vacuums, or bucket loaders.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect flushed effluent and pump to the sanitary sewer for treatment.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge from cleaning a storm drain pump station or other facility to reach the storm drain system.
- Conduct quarterly routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.
- Sample collected sediments to determine if landfill disposal is possible, or illegal discharges in the watershed are occurring.

Open Channel

- Consider modification of storm channel characteristics to improve channel hydraulics, to increase pollutant removals, and to enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies

(SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS

Illicit Connections and Discharges

- During routine maintenance of conveyance system and drainage structures field staff should look for evidence of illegal discharges or illicit connections:
  - Is there evidence of spills such as paints, discoloring, etc.
  - Are there any odors associated with the drainage system
  - Record locations of apparent illegal discharges/illicit connections
  - Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of up gradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
  - Once the origin of flow is established, require illicit discharger to eliminate the discharge.
- Stencil storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Illegal Dumping

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

- The State Department of Fish and Game has a hotline for reporting violations called Cal TIP (1-800-952-5400). The phone number may be used to report any violation of a Fish and Game code (illegal dumping, poaching, etc.).
- The California Department of Toxic Substances Control's Waste Alert Hotline, 1-800-69TOXIC, can be used to report hazardous waste violations.

Training

- Train crews in proper maintenance activities, including record keeping and disposal.
- Only properly trained individuals are allowed to handle hazardous materials/wastes.
- Train municipal employees from all departments (public works, utilities, street cleaning, parks and recreation, industrial waste inspection, hazardous waste inspection, sewer maintenance) to recognize and report illegal dumping.
- Train municipal employees and educate businesses, contractors, and the general public in proper and consistent methods for disposal.
- Train municipal staff regarding non-stormwater discharges (See SC-10 Non-Stormwater Discharges).

Spill Response and Prevention

- Refer to SC-11, Prevention, Control & Cleanup
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Cleanup 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.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and disposal of flushed effluent to sanitary sewer may be prohibited in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Municipal codes should include sections prohibiting the discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.
- Private property access rights may be needed to track illegal discharges up gradient.

- Requirements of municipal ordinance authority for suspected source verification testing for illicit connections necessary for guaranteed rights of entry.

Requirements

Costs

- An aggressive catch basin cleaning program could require a significant capital and O&M budget. A careful study of cleaning effectiveness should be undertaken before increased cleaning is implemented. Catch basin cleaning costs are less expensive if vacuum street sweepers are available; cleaning catch basins manually can cost approximately twice as much as cleaning the basins with a vacuum attached to a sweeper.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary. Encouraging reporting of illicit discharges by employees can offset costs by saving expense on inspectors and directing resources more efficiently. Some programs have used funds available from "environmental fees" or special assessment districts to fund their illicit connection elimination programs.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.

- Identifying illicit discharges requires teams of at least two people (volunteers can be used), plus administrative personnel, depending on the complexity of the storm sewer system.

- Arrangements must be made for proper disposal of collected wastes.

- Requires technical staff to detect and investigate illegal dumping violations, and to coordinate public education.

Supplemental Information

Further Detail of the BMP

Storm Drain flushing

Sanitary sewer flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in sanitary sewer systems. The same principles that make sanitary sewer flushing effective can be used to flush storm drains. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as to an open channel, to another point where flushing will be initiated, or over to the sanitary sewer and on to the treatment facilities, thus preventing re-suspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. The deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to

cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce the impacts of stormwater pollution, a second inflatable device, placed well downstream, may be used to re-collect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to re-collect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75 percent for organics and 55-65 percent for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm drain flushing.

Flow Management

Flow management has been one of the principal motivations for designing urban stream corridors in the past. Such needs may or may not be compatible with the stormwater quality goals in the stream corridor.

Downstream flood peaks can be suppressed by reducing through flow velocity. This can be accomplished by reducing gradient with grade control structures or increasing roughness with boulders, dense vegetation, or complex banks forms. Reducing velocity correspondingly increases flood height, so all such measures have a natural association with floodplain open space. Flood elevations laterally adjacent to the stream can be lowered by increasing through flow velocity.

However, increasing velocity increases flooding downstream and inherently conflicts with channel stability and human safety. Where topography permits, another way to lower flood elevation is to lower the level of the floodway with drop structures into a large but subtly excavated bowl where flood flows we allowed to spread out.

Stream Corridor Planning

Urban streams receive and convey stormwater flows from developed or developing watersheds. Planning of stream corridors thus interacts with urban stormwater management programs. If local programs are intended to control or protect downstream environments by managing flows delivered to the channels, then it is logical that such programs should be supplemented by management of the materials, forms, and uses of the downstream riparian corridor. Any proposal for steam alteration or management should be investigated for its potential flow and stability effects on upstream, downstream, and laterally adjacent areas. The timing and rate of flow from various tributaries can combine in complex ways to alter flood hazards. Each section of channel is unique, influenced by its own distribution of roughness elements, management activities, and stream responses.

Flexibility to adapt to stream features and behaviors as they evolve must be included in stream reclamation planning. The amenity and ecology of streams may be enhanced through the landscape design options of 1) corridor reservation, 2) bank treatment, 3) geomorphic restoration, and 4) grade control.

Corridor reservation - Reserving stream corridors and valleys to accommodate natural stream meandering, aggradation, degradation, and over bank flows allows streams to find their own form and generate less ongoing erosion. In California, open stream corridors in recent urban developments have produced recreational open space, irrigation of streamside plantings, and the aesthetic amenity of flowing water.

Bank treatment - The use of armoring, vegetative cover, and flow deflection may be used to influence a channel's form, stability, and biotic habitat. To prevent bank erosion, armoring can be done with rigid construction materials, such as concrete, masonry, wood planks and logs, riprap, and gabions. Concrete linings have been criticized because of their lack of provision of biotic habitat. In contrast, riprap and gabions make relatively porous and flexible linings. Boulders, placed in the bed reduce velocity and erosive power.

Riparian vegetation can stabilize the banks of streams that are at or near a condition of equilibrium. Binding networks of roots increase bank shear strength. During flood flows, resilient vegetation is forced into erosion-inhibiting mats. The roughness of vegetation leads to lower velocity, further reducing erosive effects. Structural flow deflection can protect banks from erosion or alter fish habitat. By concentrating flow, a deflector causes a pool to be scoured in the bed.

Geomorphic restoration – Restoration refers to alteration of disturbed streams so their form and behavior emulate those of undisturbed streams. Natural meanders are retained, with grading to gentle slopes on the inside of curves to allow point bars and riffle-pool sequences to develop. Trees are retained to provide scenic quality, biotic productivity, and roots for bank stabilization, supplemented by plantings where necessary.

A restorative approach can be successful where the stream is already approaching equilibrium. However, if upstream urbanization continues new flow regimes will be generated that could disrupt the equilibrium of the treated system.

Grade Control - A grade control structure is a level shelf of a permanent material, such as stone, masonry, or concrete, over which stream water flows. A grade control structure is called a sill, weir, or drop structure, depending on the relation of its invert elevation to upstream and downstream channels.

A sill is installed at the preexisting channel bed elevation to prevent upstream migration of nick points. It establishes a firm base level below which the upstream channel can not erode.

A weir or check dam is installed with invert above the preexisting bed elevation. A weir raises the local base level of the stream and causes aggradation upstream. The gradient, velocity, and erosive potential of the stream channel are reduced. A drop structure lowers the downstream invert below its preexisting elevation, reducing downstream gradient and velocity. Weirs and drop structure control erosion by dissipating energy and reducing slope velocity.

When carefully applied, grade control structures can be highly versatile in establishing human and environmental benefits in stabilized channels. To be successful, application of grade control structures should be guided by analysis of the stream system both upstream and downstream from the area to he reclaimed.

Examples

The California Department of Water Resources began the Urban Stream Restoration Program in 1985. The program provides grant funds to municipalities and community groups to implement stream restoration projects. The projects reduce damages from streambank aid watershed instability arid floods while restoring streams' aesthetic, recreational, and fish and wildlife values.

In Buena Vista Park, upper floodway slopes are gentle and grassed to achieve continuity of usable park land across the channel of small boulders at the base of the slopes.

The San Diego River is a large, vegetative lined channel, which was planted in a variety of species to support riparian wildlife while stabilizing the steep banks of the floodway.

References and Resources

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http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.

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United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Illegal Dumping Control. On line: http://www.epa.gov/npdes/menuofbmps/poll_7.htm

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Storm Drain System Cleaning. On line: http://www.epa.gov/npdes/menuofbmps/poll_16.htm

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.

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- 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

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– 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.

Maintenance Bays & Docks SD-31

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Several measures can be taken to prevent operations at maintenance bays and loading docks from contributing a variety of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to the stormwater conveyance system.

Approach

In designs for maintenance bays and loading docks, containment is encouraged. Preventative measures include overflow containment structures and dead-end sumps. However, in the case of loading docks from grocery stores and warehouse/distribution centers, engineered infiltration systems may be considered.

Suitable Applications

Appropriate applications include commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for vehicle maintenance and repair are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

Designing New Installations

Designs of maintenance bays should consider the following:

- Repair/maintenance bays and vehicle parts with fluids should be indoors; or designed to preclude urban run-on and runoff.
- Repair/maintenance floor areas should be paved with Portland cement concrete (or equivalent smooth impervious surface).

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- Repair/maintenance bays should be designed to capture all wash water leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and wash-down waters form entering the storm drain system. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

- Other features may be comparable and equally effective.

The following designs of loading/unloading dock areas should be considered:

- Loading dock areas should be covered, or drainage should be designed to preclude urban run-on and runoff.

- Direct connections into storm drains from depressed loading docks (truck wells) are prohibited.

- Below-grade loading docks from grocery stores and warehouse/distribution centers of fresh food items should drain through water quality inlets, or to an engineered infiltration system, or an equally effective alternative. Pre-treatment may also be required.

- Other features may be 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.

Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

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.

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Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

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

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

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- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

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.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

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Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Vehicle Washing Areas SD-33

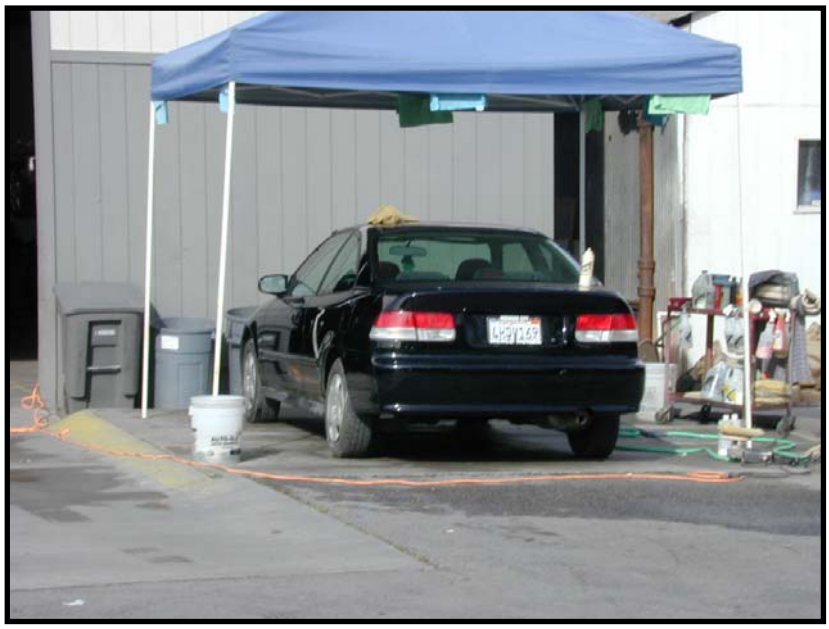

Photo Credit: Geoff Brosseau

Design Objectives

- ☑ Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- ☑ Collect and Convey

Description

Vehicle washing, equipment washing, and steam cleaning may contribute high concentrations of metals, oil and grease, solvents, phosphates, and suspended solids to wash waters that drain to stormwater conveyance systems.

Approach

Project plans should include appropriately designed area(s) for washing-steam cleaning of vehicles and equipment. Depending on the size and other parameters of the wastewater facility, wash water may be conveyed to a sewer, an infiltration system, recycling system or other alternative. Pretreatment may be required for conveyance to a sanitary sewer.

Suitable Applications

Appropriate applications include commercial developments, restaurants, retail gasoline outlets, automotive repair shops and others.

Design Considerations

Design requirements for vehicle maintenance are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. Design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

Designing New Installations

Areas for washing/steam cleaning should incorporate one of the following features:

- Be self-contained and/or covered with a roof or overhang
- Be equipped with a clarifier or other pretreatment facility
- Have a proper connection to a sanitary sewer

- Include other features which are comparable and equally effective

CAR WASH AREAS - Some jurisdictions' stormwater management plans include vehicle-cleaning area source control design requirements for community car wash racks in complexes with a large number of dwelling units. In these cases, wash water from the areas may be directed to the sanitary sewer, to an engineered infiltration system, or to an equally effective alternative. Pre-treatment may also be required.

Depending on the jurisdiction, developers may be directed to divert surface water runoff away from the exposed area around the wash pad (parking lot, storage areas), and wash pad itself to alternatives other than the sanitary sewer. Roofing may be required for exposed wash pads.

It is generally advisable to cover areas used for regular washing of vehicles, trucks, or equipment, surround them with a perimeter berm, and clearly mark them as a designated washing area. Sumps or drain lines can be installed to collect wash water, which may be treated for reuse or recycling, or for discharge to the sanitary sewer. Jurisdictions may require some form of pretreatment, such as a trap, for these areas.

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.

Additional Information

Maintenance Considerations

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

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.

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Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Outdoor Material Storage Areas SD-34

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutant
- Collect and Convey

Description

Proper design of outdoor storage areas for materials reduces opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Materials may be in the form of raw products, by-products, finished products, and waste products. The type of pollutants associated with the materials will vary depending on the type of commercial or industrial activity.

Approach

Outdoor storage areas require a drainage approach different from the typical infiltration/detention strategy. In outdoor storage areas, infiltration is discouraged. Containment is encouraged. Preventative measures include enclosures, secondary containment structures and impervious surfaces.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Some materials are more of a concern than others. Toxic and hazardous materials must be prevented from coming in contact with stormwater. Non-toxic or non-hazardous materials do not have to be prevented from stormwater contact. However, these materials may have toxic effects on receiving waters if allowed to be discharged with stormwater in significant quantities. Accumulated material on an impervious surface could result in significant impact on the rivers or streams that receive the runoff.

Material may be stored in a variety of ways, including bulk piles, containers, shelving, stacking, and tanks. Stormwater contamination may be prevented by eliminating the possibility of stormwater contact with the material storage areas either through diversion, cover, or capture of the stormwater. Control measures may also include minimizing the storage area. Design

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requirements for material storage areas are governed by Building and Fire Codes, and by current City or County ordinances and zoning requirements. Control measures are site specific, and must meet local agency requirements.

Designing New Installations

Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following structural or treatment BMPS should be considered:

- Materials with the potential to contaminate stormwater should be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the stormwater conveyance system, or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area should be paved and sufficiently impervious to contain leaks and spills.
- The storage area should slope towards a dead-end sump to contain spills and direct runoff from downspouts/roofs should be directed away from storage areas.
- The storage area should have a roof or awning that extends beyond the storage area to minimize collection of stormwater within the secondary containment area. A manufactured storage shed may be used for small containers.

Note that the location(s) of installations of where these preventative measures will be employed must be included on the map or plans identifying BMPs.

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.

Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permits.

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.

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Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

APPENDIX D – Noise Outputs

Noise Measurement Site 1 - looking north

Noise Measurement Site 1 - looking northeast

Noise Measurement Site 1 - looking east

Noise Measurement Site 1 - looking southeast

Noise Measurement Site 1 - looking south

Noise Measurement Site 1 - looking southwest

Noise Measurement Site 1 - looking west

Noise Measurement Site 1 - looking northwest

Noise Measurement Site 2 - looking north

Noise Measurement Site 2 - looking northeast

Noise Measurement Site 2 - looking east

Noise Measurement Site 2 - looking southeast

Noise Measurement Site 2 - looking south

Noise Measurement Site 2 - looking southwest

Noise Measurement Site 2 - looking west

Noise Measurement Site 2 - looking northwest

Noise Measurement Site 3 - looking north

Noise Measurement Site 3 - looking northeast

Noise Measurement Site 3 - looking east

Noise Measurement Site 3 - looking southeast

Noise Measurement Site 3 - looking south

Noise Measurement Site 3 - looking southwest

Noise Measurement Site 3 - looking west

Noise Measurement Site 3 - looking northwest

Site 1 - On Southwest Side of Project Site

July 12, 2022 11:05:28 AM Leq Daytime = 58.0
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 47.6
Record Num = 86403 CNEL(24hr)= 58.5
Leq = 56.2 Ldn(24hr)= 57.9
Min = 34.0 Min Leq hr at 3:25 AM 38.4
Max = 84.4 Max Leq hr at 2:41 PM 61.8

Site 1 - On Southwest Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
62.7	11:05:28		62.7	62.7
62.3	11:05:29		62.3	62.3
61.3	11:05:30		61.3	61.3
63.8	11:05:31		63.8	63.8
64.9	11:05:32		64.9	64.9
63.4	11:05:33		63.4	63.4
62.3	11:05:34		62.3	62.3
68.5	11:05:35		68.5	68.5
68.7	11:05:36		68.7	68.7
67.1	11:05:37		67.1	67.1
64.5	11:05:38		64.5	64.5
62.1	11:05:39		62.1	62.1
62.1	11:05:40		62.1	62.1
62.2	11:05:41		62.2	62.2
66.6	11:05:42		66.6	66.6
66.7	11:05:43		66.7	66.7
65.9	11:05:44		65.9	65.9
65.4	11:05:45		65.4	65.4
65.3	11:05:46		65.3	65.3
66.0	11:05:47		66.0	66.0
66.4	11:05:48		66.4	66.4
67.3	11:05:49		67.3	67.3
67.9	11:05:50		67.9	67.9
67.2	11:05:51		67.2	67.2
67.5	11:05:52		67.5	67.5
68.9	11:05:53		68.9	68.9
68.2	11:05:54		68.2	68.2
69.7	11:05:55		69.7	69.7
69.9	11:05:56		69.9	69.9
68.1	11:05:57		68.1	68.1
67.1	11:05:58		67.1	67.1
66.2	11:05:59		66.2	66.2
66.2	11:06:00		66.2	66.2
66.9	11:06:01		66.9	66.9
66.8	11:06:02		66.8	66.8
66.5	11:06:03		66.5	66.5
66.4	11:06:04		66.4	66.4
63.7	11:06:05		63.7	63.7
61.6	11:06:06		61.6	61.6
60.6	11:06:07		60.6	60.6
61.0	11:06:08		61.0	61.0
61.6	11:06:09		61.6	61.6
68.9	11:06:10		68.9	68.9
73.9	11:06:11		73.9	73.9
70.9	11:06:12		70.9	70.9
67.7	11:06:13		67.7	67.7
65.5	11:06:14		65.5	65.5
64.3	11:06:15		64.3	64.3
64.4	11:06:16		64.4	64.4
62.6	11:06:17		62.6	62.6
62.4	11:06:18		62.4	62.4
62.0	11:06:19		62.0	62.0
61.8	11:06:20		61.8	61.8
62.9	11:06:21		62.9	62.9
64.3	11:06:22		64.3	64.3
68.3	11:06:23		68.3	68.3
67.2	11:06:24		67.2	67.2
64.2	11:06:25		64.2	64.2
68.1	11:06:26		68.1	68.1
65.9	11:06:27		65.9	65.9
63.6	11:06:28		63.6	63.6
66.1	11:06:29		66.1	66.1
69.8	11:06:30		69.8	69.8
81.0	11:06:31		81.0	81.0
77.2	11:06:32		77.2	77.2
73.7	11:06:33		73.7	73.7
69.7	11:06:34		69.7	69.7
65.9	11:06:35		65.9	65.9
62.4	11:06:36		62.4	62.4
60.0	11:06:37		60.0	60.0
59.5	11:06:38		59.5	59.5
60.1	11:06:39		60.1	60.1
60.7	11:06:40		60.7	60.7
59.0	11:06:41		59.0	59.0
60.0	11:06:42		60.0	60.0
59.1	11:06:43		59.1	59.1
57.0	11:06:44		57.0	57.0
55.1	11:06:45		55.1	55.1
53.9	11:06:46		53.9	53.9
53.5	11:06:47		53.5	53.5
56.5	11:06:48		56.5	56.5
56.8	11:06:49		56.8	56.8
61.9	11:06:50		61.9	61.9
61.5	11:06:51		61.5	61.5
58.7	11:06:52		58.7	58.7
57.1	11:06:53		57.1	57.1
56.1	11:06:54		56.1	56.1
55.3	11:06:55		55.3	55.3
55.1	11:06:56		55.1	55.1
55.5	11:06:57		55.5	55.5
55.6	11:06:58		55.6	55.6
54.9	11:06:59		54.9	54.9
54.7	11:07:00		54.7	54.7
54.9	11:07:01		54.9	54.9
54.9	11:07:02		54.9	54.9
55.1	11:07:03		55.1	55.1
55.4	11:07:04		55.4	55.4
56.1	11:07:05		56.1	56.1
56.2	11:07:06		56.2	56.2
56.3	11:07:07		56.3	56.3
56.7	11:07:08		56.7	56.7
57.2	11:07:09		57.2	57.2
57.6	11:07:10		57.6	57.6
57.5	11:07:11		57.5	57.5
57.1	11:07:12		57.1	57.1
57.1	11:07:13		57.1	57.1
56.9	11:07:14		56.9	56.9
56.3	11:07:15		56.3	56.3
56.3	11:07:16		56.3	56.3
57.8	11:07:17		57.8	57.8
56.5	11:07:18		56.5	56.5
55.4	11:07:19		55.4	55.4
54.5	11:07:20		54.5	54.5
53.9	11:07:21		53.9	53.9
54.0	11:07:22		54.0	54.0
55.2	11:07:23		55.2	55.2
56.3	11:07:24		56.3	56.3
56.7	11:07:25		56.7	56.7
54.7	11:07:26		54.7	54.7
54.1	11:07:27		54.1	54.1
54.0	11:07:28		54.0	54.0
52.7	11:07:29		52.7	52.7
52.6	11:07:30		52.6	52.6
52.1	11:07:31		52.1	52.1
52.3	11:07:32		52.3	52.3
51.4	11:07:33		51.4	51.4
51.4	11:07:34		51.4	51.4
51.8	11:07:35		51.8	51.8
51.2	11:07:36		51.2	51.2
50.6	11:07:37		50.6	50.6
49.6	11:07:38		49.6	49.6
49.2	11:07:39		49.2	49.2
49.1	11:07:40		49.1	49.1
50.1	11:07:41		50.1	50.1
51.1	11:07:42		51.1	51.1
54.5	11:07:43		54.5	54.5
60.5	11:07:44		60.5	60.5
58.3	11:07:45		58.3	58.3
57.3	11:07:46		57.3	57.3
59.4	11:07:47		59.4	59.4
59.7	11:07:48		59.7	59.7
57.5	11:07:49		57.5	57.5
56.2	11:07:50		56.2	56.2
55.1	11:07:51		55.1	55.1
56.2	11:07:52		56.2	56.2
57.6	11:07:53		57.6	57.6
57.3	11:07:54		57.3	57.3
57.1	11:07:55		57.1	57.1
58.0	11:07:56		58.0	58.0
57.9	11:07:57		57.9	57.9
57.7	11:07:58		57.7	57.7
57.3	11:07:59		57.3	57.3
57.0	11:08:00		57.0	57.0
57.1	11:08:01		57.1	57.1
56.0	11:08:02		56.0	56.0
55.7	11:08:03		55.7	55.7
57.5	11:08:04		57.5	57.5
58.4	11:08:05		58.4	58.4
60.8	11:08:06		60.8	60.8
61.9	11:08:07		61.9	61.9
61.6	11:08:08		61.6	61.6
60.4	11:08:09		60.4	60.4
59.0	11:08:10		59.0	59.0
58.0	11:08:11		58.0	58.0
57.7	11:08:12		57.7	57.7
58.5	11:08:13		58.5	58.5
59.9	11:08:14		59.9	59.9
60.5	11:08:15		60.5	60.5
60.2	11:08:16		60.2	60.2
59.8	11:08:17		59.8	59.8

Site 2 - On Southeast Side of Project Site

July 12, 2022 11:16:32 AM Leq Daytime = 56.3
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 44.9
Record Num = 86403 CNEL(24hr)= 56.6
Leq = 54.4 Ldn(24hr)= 55.8
Min = 34.8 Min Leq hr at 3:24 AM 37.9
Max = 79.8 Max Leq hr at 7:30 AM 59.9

Site 2 - On Southeast Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
58.8	11:16:32		58.8	58.8
59.6	11:16:33		59.6	59.6
62.0	11:16:34		62.0	62.0
62.1	11:16:35		62.1	62.1
67.6	11:16:36		67.6	67.6
65.2	11:16:37		65.2	65.2
61.0	11:16:38		61.0	61.0
60.2	11:16:39		60.2	60.2
58.7	11:16:40		58.7	58.7
64.7	11:16:41		64.7	64.7
60.9	11:16:42		60.9	60.9
57.8	11:16:43		57.8	57.8
55.3	11:16:44		55.3	55.3
55.7	11:16:45		55.7	55.7
55.3	11:16:46		55.3	55.3
54.6	11:16:47		54.6	54.6
53.2	11:16:48		53.2	53.2
53.0	11:16:49		53.0	53.0
60.7	11:16:50		60.7	60.7
66.3	11:16:51		66.3	66.3
65.9	11:16:52		65.9	65.9
62.9	11:16:53		62.9	62.9
65.5	11:16:54		65.5	65.5
63.7	11:16:55		63.7	63.7
61.0	11:16:56		61.0	61.0
64.6	11:16:57		64.6	64.6
64.7	11:16:58		64.7	64.7
65.4	11:16:59		65.4	65.4
66.2	11:17:00		66.2	66.2
67.1	11:17:01		67.1	67.1
66.1	11:17:02		66.1	66.1
64.4	11:17:03		64.4	64.4
63.3	11:17:04		63.3	63.3
65.9	11:17:05		65.9	65.9
62.8	11:17:06		62.8	62.8
59.2	11:17:07		59.2	59.2
57.3	11:17:08		57.3	57.3
59.6	11:17:09		59.6	59.6
59.8	11:17:10		59.8	59.8
59.7	11:17:11		59.7	59.7
63.8	11:17:12		63.8	63.8
60.3	11:17:13		60.3	60.3
59.3	11:17:14		59.3	59.3
60.7	11:17:15		60.7	60.7
58.7	11:17:16		58.7	58.7
59.9	11:17:17		59.9	59.9
58.8	11:17:18		58.8	58.8
57.0	11:17:19		57.0	57.0
56.7	11:17:20		56.7	56.7
61.9	11:17:21		61.9	61.9
63.8	11:17:22		63.8	63.8
62.7	11:17:23		62.7	62.7
61.5	11:17:24		61.5	61.5
70.1	11:17:25		70.1	70.1
69.2	11:17:26		69.2	69.2
65.3	11:17:27		65.3	65.3
61.5	11:17:28		61.5	61.5
58.2	11:17:29		58.2	58.2
56.0	11:17:30		56.0	56.0
58.5	11:17:31		58.5	58.5
65.9	11:17:32		65.9	65.9
68.4	11:17:33		68.4	68.4
64.7	11:17:34		64.7	64.7
63.3	11:17:35		63.3	63.3
63.2	11:17:36		63.2	63.2
61.1	11:17:37		61.1	61.1
59.0	11:17:38		59.0	59.0
58.8	11:17:39		58.8	58.8
58.4	11:17:40		58.4	58.4
62.1	11:17:41		62.1	62.1
59.2	11:17:42		59.2	59.2
56.4	11:17:43		56.4	56.4
54.6	11:17:44		54.6	54.6
54.7	11:17:45		54.7	54.7
53.8	11:17:46		53.8	53.8
54.5	11:17:47		54.5	54.5
56.7	11:17:48		56.7	56.7
56.4	11:17:49		56.4	56.4
56.0	11:17:50		56.0	56.0
55.1	11:17:51		55.1	55.1
53.1	11:17:52		53.1	53.1
52.1	11:17:53		52.1	52.1
51.8	11:17:54		51.8	51.8
51.9	11:17:55		51.9	51.9
51.6	11:17:56		51.6	51.6
51.3	11:17:57		51.3	51.3
51.5	11:17:58		51.5	51.5
51.0	11:17:59		51.0	51.0
50.6	11:18:00		50.6	50.6
50.8	11:18:01		50.8	50.8
50.9	11:18:02		50.9	50.9
50.7	11:18:03		50.7	50.7
51.1	11:18:04		51.1	51.1
51.3	11:18:05		51.3	51.3
50.8	11:18:06		50.8	50.8
50.8	11:18:07		50.8	50.8
50.8	11:18:08		50.8	50.8
51.4	11:18:09		51.4	51.4
51.9	11:18:10		51.9	51.9
52.2	11:18:11		52.2	52.2
52.1	11:18:12		52.1	52.1
51.9	11:18:13		51.9	51.9
51.7	11:18:14		51.7	51.7
51.5	11:18:15		51.5	51.5
51.5	11:18:16		51.5	51.5
51.0	11:18:17		51.0	51.0
50.5	11:18:18		50.5	50.5
49.9	11:18:19		49.9	49.9
49.4	11:18:20		49.4	49.4
49.8	11:18:21		49.8	49.8
50.8	11:18:22		50.8	50.8
50.8	11:18:23		50.8	50.8
50.4	11:18:24		50.4	50.4
49.7	11:18:25		49.7	49.7
49.4	11:18:26		49.4	49.4
48.8	11:18:27		48.8	48.8
48.1	11:18:28		48.1	48.1
47.9	11:18:29		47.9	47.9
47.6	11:18:30		47.6	47.6
47.8	11:18:31		47.8	47.8
47.7	11:18:32		47.7	47.7
47.3	11:18:33		47.3	47.3
47.0	11:18:34		47.0	47.0
46.5	11:18:35		46.5	46.5
46.5	11:18:36		46.5	46.5
46.7	11:18:37		46.7	46.7
46.4	11:18:38		46.4	46.4
46.0	11:18:39		46.0	46.0
46.2	11:18:40		46.2	46.2
46.9	11:18:41		46.9	46.9
46.7	11:18:42		46.7	46.7
46.6	11:18:43		46.6	46.6
46.0	11:18:44		46.0	46.0
46.1	11:18:45		46.1	46.1
45.9	11:18:46		45.9	45.9
45.8	11:18:47		45.8	45.8
45.6	11:18:48		45.6	45.6
46.0	11:18:49		46.0	46.0
46.2	11:18:50		46.2	46.2
58.2	11:18:51		58.2	58.2
62.3	11:18:52		62.3	62.3
58.3	11:18:53		58.3	58.3
54.7	11:18:54		54.7	54.7
51.6	11:18:55		51.6	51.6
49.4	11:18:56		49.4	49.4
48.4	11:18:57		48.4	48.4
48.9	11:18:58		48.9	48.9
52.4	11:18:59		52.4	52.4
50.5	11:19:00		50.5	50.5
48.9	11:19:01		48.9	48.9
48.6	11:19:02		48.6	48.6
48.4	11:19:03		48.4	48.4
48.6	11:19:04		48.6	48.6
50.0	11:19:05		50.0	50.0
50.0	11:19:06		50.0	50.0
49.8	11:19:07		49.8	49.8
49.3	11:19:08		49.3	49.3
49.4	11:19:09		49.4	49.4
51.4	11:19:10		51.4	51.4
51.9	11:19:11		51.9	51.9
51.3	11:19:12		51.3	51.3
49.9	11:19:13		49.9	49.9
48.9	11:19:14		48.9	48.9
48.2	11:19:15		48.2	48.2
48.1	11:19:16		48.1	48.1
47.8	11:19:17		47.8	47.8
47.3	11:19:18		47.3	47.3
47.3	11:19:19		47.3	47.3
47.3	11:19:20		47.3	47.3
47.4	11:19:21		47.4	47.4

Site 3 - On North Side of Project Site

July 12, 2022 11:28:38 AM Leq Daytime = 58.5
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 45.8
Record Num = 86402 CNEL(24hr)= 58.1
Leq = 56.6 Ldn(24hr)= 57.7
Min = 33.4 Min Leq hr at 3:50 AM 34.7
Max = 73.2 Max Leq hr at 4:42 PM 62.3

Site 3 - On North Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
60.4	11:28:38		60.4	60.4
56.5	11:28:39		56.5	56.5
63.7	11:28:40		63.7	63.7
62.5	11:28:41		62.5	62.5
61.3	11:28:42		61.3	61.3
59.4	11:28:43		59.4	59.4
58.5	11:28:44		58.5	58.5
56.7	11:28:45		56.7	56.7
57.9	11:28:46		57.9	57.9
63.2	11:28:47		63.2	63.2
61.7	11:28:48		61.7	61.7
58.1	11:28:49		58.1	58.1
60.5	11:28:50		60.5	60.5
63.1	11:28:51		63.1	63.1
61.0	11:28:52		61.0	61.0
60.6	11:28:53		60.6	60.6
61.1	11:28:54		61.1	61.1
63.2	11:28:55		63.2	63.2
64.3	11:28:56		64.3	64.3
60.1	11:28:57		60.1	60.1
59.1	11:28:58		59.1	59.1
66.9	11:28:59		66.9	66.9
64.1	11:29:00		64.1	64.1
62.7	11:29:01		62.7	62.7
62.2	11:29:02		62.2	62.2
60.0	11:29:03		60.0	60.0
58.6	11:29:04		58.6	58.6
58.2	11:29:05		58.2	58.2
60.1	11:29:06		60.1	60.1
58.5	11:29:07		58.5	58.5
58.8	11:29:08		58.8	58.8
57.9	11:29:09		57.9	57.9
58.3	11:29:10		58.3	58.3
57.6	11:29:11		57.6	57.6
58.1	11:29:12		58.1	58.1
57.9	11:29:13		57.9	57.9
57.1	11:29:14		57.1	57.1
57.1	11:29:15		57.1	57.1
60.9	11:29:16		60.9	60.9
61.0	11:29:17		61.0	61.0
58.3	11:29:18		58.3	58.3
57.8	11:29:19		57.8	57.8
57.7	11:29:20		57.7	57.7
59.1	11:29:21		59.1	59.1
60.5	11:29:22		60.5	60.5
60.5	11:29:23		60.5	60.5
64.2	11:29:24		64.2	64.2
63.7	11:29:25		63.7	63.7
63.1	11:29:26		63.1	63.1
61.2	11:29:27		61.2	61.2
60.7	11:29:28		60.7	60.7
60.0	11:29:29		60.0	60.0
59.4	11:29:30		59.4	59.4
58.8	11:29:31		58.8	58.8
56.5	11:29:32		56.5	56.5
58.4	11:29:33		58.4	58.4
57.1	11:29:34		57.1	57.1
63.9	11:29:35		63.9	63.9
66.3	11:29:36		66.3	66.3
66.9	11:29:37		66.9	66.9
63.7	11:29:38		63.7	63.7
60.3	11:29:39		60.3	60.3
58.8	11:29:40		58.8	58.8
57.4	11:29:41		57.4	57.4
55.7	11:29:42		55.7	55.7
55.3	11:29:43		55.3	55.3
59.1	11:29:44		59.1	59.1
59.9	11:29:45		59.9	59.9
58.0	11:29:46		58.0	58.0
60.7	11:29:47		60.7	60.7
57.9	11:29:48		57.9	57.9
58.8	11:29:49		58.8	58.8
57.8	11:29:50		57.8	57.8
55.2	11:29:51		55.2	55.2
55.5	11:29:52		55.5	55.5
59.9	11:29:53		59.9	59.9
56.4	11:29:54		56.4	56.4
53.4	11:29:55		53.4	53.4
51.4	11:29:56		51.4	51.4
53.5	11:29:57		53.5	53.5
54.3	11:29:58		54.3	54.3
54.2	11:29:59		54.2	54.2
53.0	11:30:00		53.0	53.0
54.8	11:30:01		54.8	54.8
54.6	11:30:02		54.6	54.6
54.5	11:30:03		54.5	54.5
56.6	11:30:04		56.6	56.6
55.2	11:30:05		55.2	55.2
56.1	11:30:06		56.1	56.1
59.4	11:30:07		59.4	59.4
59.5	11:30:08		59.5	59.5
57.5	11:30:09		57.5	57.5
56.0	11:30:10		56.0	56.0
55.7	11:30:11		55.7	55.7
54.9	11:30:12		54.9	54.9
55.9	11:30:13		55.9	55.9
57.0	11:30:14		57.0	57.0
58.0	11:30:15		58.0	58.0
60.8	11:30:16		60.8	60.8
60.2	11:30:17		60.2	60.2
59.4	11:30:18		59.4	59.4
57.1	11:30:19		57.1	57.1
55.4	11:30:20		55.4	55.4
57.5	11:30:21		57.5	57.5
59.7	11:30:22		59.7	59.7
62.3	11:30:23		62.3	62.3
60.0	11:30:24		60.0	60.0
60.9	11:30:25		60.9	60.9
61.9	11:30:26		61.9	61.9
61.6	11:30:27		61.6	61.6
60.1	11:30:28		60.1	60.1
60.3	11:30:29		60.3	60.3
58.6	11:30:30		58.6	58.6
56.7	11:30:31		56.7	56.7
55.3	11:30:32		55.3	55.3
53.5	11:30:33		53.5	53.5
54.7	11:30:34		54.7	54.7
53.7	11:30:35		53.7	53.7
52.6	11:30:36		52.6	52.6
54.7	11:30:37		54.7	54.7
54.7	11:30:38		54.7	54.7
54.1	11:30:39		54.1	54.1
52.8	11:30:40		52.8	52.8
59.3	11:30:41		59.3	59.3
58.4	11:30:42		58.4	58.4
58.9	11:30:43		58.9	58.9
58.7	11:30:44		58.7	58.7
58.0	11:30:45		58.0	58.0
56.1	11:30:46		56.1	56.1
53.2	11:30:47		53.2	53.2
55.0	11:30:48		55.0	55.0
55.3	11:30:49		55.3	55.3
54.6	11:30:50		54.6	54.6
53.3	11:30:51		53.3	53.3
53.0	11:30:52		53.0	53.0
52.0	11:30:53		52.0	52.0
51.0	11:30:54		51.0	51.0
51.7	11:30:55		51.7	51.7
53.0	11:30:56		53.0	53.0
53.6	11:30:57		53.6	53.6
55.2	11:30:58		55.2	55.2
53.2	11:30:59		53.2	53.2
55.0	11:31:00		55.0	55.0
54.7	11:31:01		54.7	54.7
55.0	11:31:02		55.0	55.0
56.5	11:31:03		56.5	56.5
55.8	11:31:04		55.8	55.8
55.0	11:31:05		55.0	55.0
53.5	11:31:06		53.5	53.5
53.1	11:31:07		53.1	53.1
52.9	11:31:08		52.9	52.9
52.5	11:31:09		52.5	52.5
53.4	11:31:10		53.4	53.4
53.6	11:31:11		53.6	53.6
61.2	11:31:12		61.2	61.2
60.4	11:31:13		60.4	60.4
58.3	11:31:14		58.3	58.3
58.8	11:31:15		58.8	58.8
57.6	11:31:16		57.6	57.6
56.1	11:31:17		56.1	56.1
54.9	11:31:18		54.9	54.9
53.9	11:31:19		53.9	53.9
51.8	11:31:20		51.8	51.8
51.6	11:31:21		51.6	51.6
55.4	11:31:22		55.4	55.4
55.3	11:31:23		55.3	55.3
54.4	11:31:24		54.4	54.4
61.3	11:31:25		61.3	61.3
59.6	11:31:26		59.6	59.6
59.6	11:31:27		59.6	59.6

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phase 1 Temporary Structures

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Homes to North	Residential	58.5	58.5	45.8

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		350	0
Front End Loader	No	40		79.1	350	0
Flat Bed Truck	No	40		74.3	350	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq
Tractor	67.1	63.1	N/A	N/A	N/A	N/A
Front End Loader	62.2	58.2	N/A	N/A	N/A	N/A
Flat Bed Truck	57.3	53.4	N/A	N/A	N/A	N/A
Total	**67**	**65**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Commercial to East	Commercial	56.3	56.3	44.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84.0		400	0
Front End Loader	No	40		79.1	400	0
Flat Bed Truck	No	40		74.3	400	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq
Tractor	65.9	62.0	N/A	N/A	N/A	N/A
Front End Loader	61.0	57.1	N/A	N/A	N/A	N/A
Flat Bed Truck	56.2	52.2	N/A	N/A	N/A	N/A
Total	**66**	**64**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phase 2 Demolition

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Homes to North	Residential	58.5	58.5	45.8

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	350	0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	350	0
Tractor	No	40	84		350	0
Front End Loader	No	40		79.1	350	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		63.8	59.8	N/A	N/A	N/A	N/A
Mounted Impact Hammer (hoe ram)		73.4	66.4	N/A	N/A	N/A	N/A
Tractor		67	63	N/A	N/A	N/A	N/A
Front End Loader		62.2	58.2	N/A	N/A	N/A	N/A
	Total	**73**	**69**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phase 2 Demolition

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Commercial to East	Commercial	56.3	56.3	44.9

Description	Impact Device	Usage(%)	Equipment **Spec** Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	400	0
Mounted Impact Hammer (hoe ram)	Yes	20		90.3	400	0
Tractor	No	40	84		400	0
Front End Loader	No	40		79.1	400	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		62.6	58.7	N/A	N/A	N/A	N/A
Mounted Impact Hammer (hoe ram)		72.2	65.2	N/A	N/A	N/A	N/A
Tractor		65.9	62.0	N/A	N/A	N/A	N/A
Front End Loader		61.0	57.1	N/A	N/A	N/A	N/A
	Total	**72**	**68**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phase 3 Grading

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Homes to North	Residential	58.5	58.5	45.8

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	350	0
Grader	No	40	85		350	0
Excavator	No	40		80.7	350	0
Dozer	No	40		81.7	350	0
Scraper	No	40		83.6	350	0
Tractor	No	40	84		350	0
Front End Loader	No	40		79.1	350	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		64.8	60.8	N/A	N/A	N/A	N/A
Grader		68.1	64.1	N/A	N/A	N/A	N/A
Excavator		63.8	59.8	N/A	N/A	N/A	N/A
Dozer		64.8	60.8	N/A	N/A	N/A	N/A
Scraper		66.7	62.7	N/A	N/A	N/A	N/A
Tractor		67.1	63.1	N/A	N/A	N/A	N/A
Front End Loader		62.2	58.2	N/A	N/A	N/A	N/A
	Total	**68**	**70**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phase 3 Grading

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Commercial to East	Commercial	56.3	56.3	44.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	400	0
Grader	No	40	85		400	0
Excavator	No	40		80.7	400	0
Dozer	No	40		81.7	400	0
Scraper	No	40		83.6	400	0
Tractor	No	40	84		400	0
Front End Loader	No	40		79.1	400	0

	Calculated (dBA)		Results Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	63.6	59.6	N/A	N/A	N/A	N/A
Grader	66.9	63.0	N/A	N/A	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A
Scraper	65.5	61.5	N/A	N/A	N/A	N/A
Tractor	65.9	62.0	N/A	N/A	N/A	N/A
Front End Loader	61.0	57.1	N/A	N/A	N/A	N/A
Total	**67**	**69**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phases 4 & 5

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Homes to North	Residential	58.5	58.5	45.8

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	350	0
Crane	No	16		80.6	350	0
Gradall	No	40		83.4	350	0
Gradall	No	40		83.4	350	0
Welder / Torch	No	40		74	350	0
Grader	No	40	85		350	0
Paver	No	50		77.2	350	0
Paver	No	50		77.2	350	0
Roller	No	20		80	350	0
Tractor	No	40	84		350	0
Front End Loader	No	40		79.1	350	0
Compressor (air)	No	40		77.7	350	0

Results

Equipment		Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Crane		63.6	55.7	N/A	N/A	N/A	N/A
Crane		63.6	55.7	N/A	N/A	N/A	N/A
Gradall		66.5	62.5	N/A	N/A	N/A	N/A
Gradall		66.5	62.5	N/A	N/A	N/A	N/A
Welder / Torch		57.1	53.1	N/A	N/A	N/A	N/A
Grader		68.1	64.1	N/A	N/A	N/A	N/A
Paver		60.3	57.3	N/A	N/A	N/A	N/A
Paver		60.3	57.3	N/A	N/A	N/A	N/A
Roller		63.1	56.1	N/A	N/A	N/A	N/A
Tractor		67.1	63.1	N/A	N/A	N/A	N/A
Front End Loader		62.2	58.2	N/A	N/A	N/A	N/A
Compressor (air)		60.8	56.8	N/A	N/A	N/A	N/A
	Total	**68**	**71**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/8/2022
Case Description: Newport Beach Tennis Club Amendment - Phases 4 & 5

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Nearest Commercial to East	Commercial	56.3	56.3	44.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	400	0
Crane	No	16		80.6	400	0
Gradall	No	40		83.4	400	0
Gradall	No	40		83.4	400	0
Welder / Torch	No	40		74	400	0
Grader	No	40	85		400	0
Paver	No	50		77.2	400	0
Paver	No	50		77.2	400	0
Roller	No	20		80	400	0
Tractor	No	40	84		400	0
Front End Loader	No	40		79.1	400	0
Compressor (air)	No	40		77.7	400	0

	Results					
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	62.5	54.5	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A
Gradall	65.3	61.4	N/A	N/A	N/A	N/A
Gradall	65.3	61.4	N/A	N/A	N/A	N/A
Welder / Torch	55.9	52.0	N/A	N/A	N/A	N/A
Grader	66.9	63.0	N/A	N/A	N/A	N/A
Paver	59.2	56.1	N/A	N/A	N/A	N/A
Paver	59.2	56.1	N/A	N/A	N/A	N/A
Roller	61.9	54.9	N/A	N/A	N/A	N/A
Tractor	65.9	62.0	N/A	N/A	N/A	N/A
Front End Loader	61.0	57.1	N/A	N/A	N/A	N/A
Compressor (air)	59.6	55.6	N/A	N/A	N/A	N/A
Total	**67**	**70**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Measurement Report

Report Summary

Meter's File Name	831_Data.004	Computer's File Name	SLM_0002509_831_Data_004.02.ldbin
Meter	831		
Firmware	2.314		
User	GT	Location	
Description	Riverside - The Motorcycle Company - Phase 3		
Note	On Roof - Approx 6 feet from HVAC Unit		
Start Time	2020-05-09 13:23:15	Duration	0:10:00.2
End Time	2020-05-09 13:33:15	Run Time	0:10:00.2
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	65.1 dB		
LAE	92.9 dB	SEA	--- dB
EA	214.7 µPa²h		
LZ_{peak}	106.4 dB	2020-05-09 13:25:40	
LAS_{max}	80.1 dB	2020-05-09 13:25:19	
LAS_{min}	55.1 dB	2020-05-09 13:30:14	
LA_{eq}	65.1 dB		
LC_{eq}	78.1 dB	LC_{eq} - LA_{eq}	13.0 dB
LAI_{eq}	68.9 dB	LAI_{eq} - LA_{eq}	3.8 dB

Exceedances	Count	Duration
LAS > 65.0 dB	16	0:02:46.5
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	65.1 dB	65.1 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	65.1 dB	65.1 dB	--- dB	--- dB

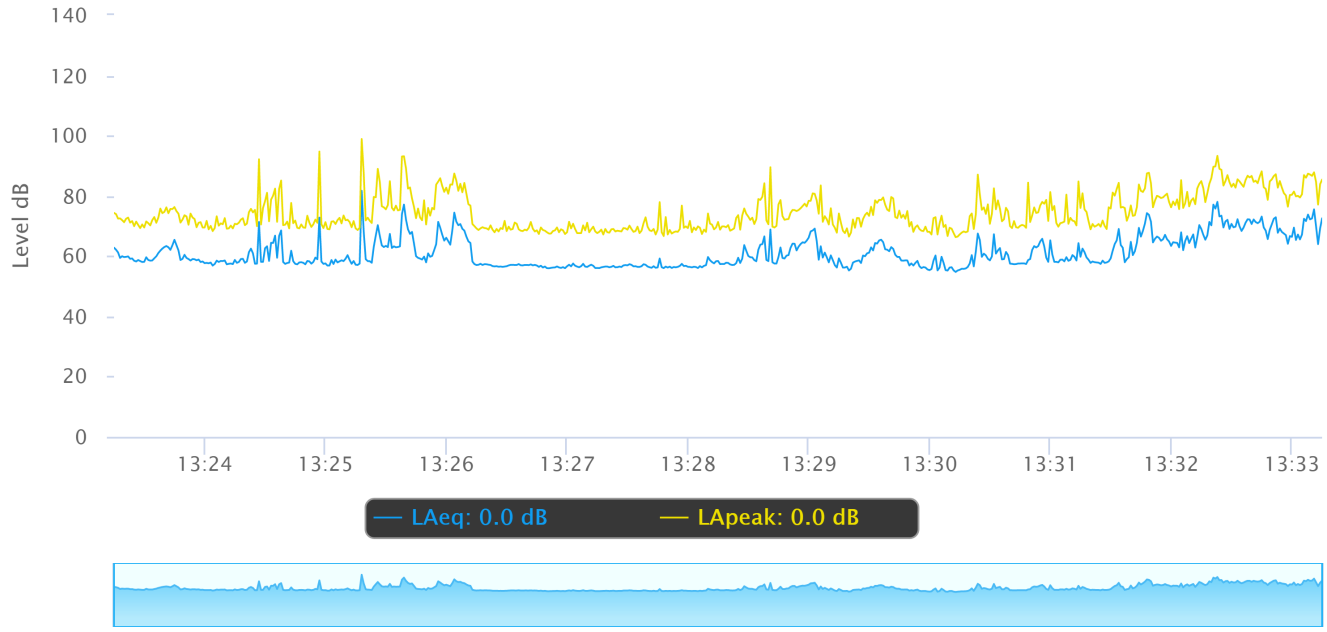
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	65.1 dB		78.1 dB		80.9 dB	
$LS_{(max)}$	80.1 dB	2020-05-09 13:25:19	91.6 dB	2020-05-09 13:26:05	97.4 dB	2020-05-09 13:23:15
$LF_{(max)}$	84.7 dB	2020-05-09 13:25:18	95.4 dB	2020-05-09 13:25:40	97.5 dB	2020-05-09 13:23:15
$LI_{(max)}$	86.7 dB	2020-05-09 13:25:18	97.5 dB	2020-05-09 13:25:40	99.6 dB	2020-05-09 13:23:15
$LS_{(min)}$	55.1 dB	2020-05-09 13:30:14	64.7 dB	2020-05-09 13:30:02	67.4 dB	2020-05-09 13:28:06
$LF_{(min)}$	54.3 dB	2020-05-09 13:30:13	63.0 dB	2020-05-09 13:30:12	65.8 dB	2020-05-09 13:27:31
$LI_{(min)}$	54.6 dB	2020-05-09 13:30:13	65.0 dB	2020-05-09 13:30:02	68.0 dB	2020-05-09 13:27:59
$L_{Peak(max)}$	98.9 dB	2020-05-09 13:25:18	105.7 dB	2020-05-09 13:25:40	106.4 dB	2020-05-09 13:25:40

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

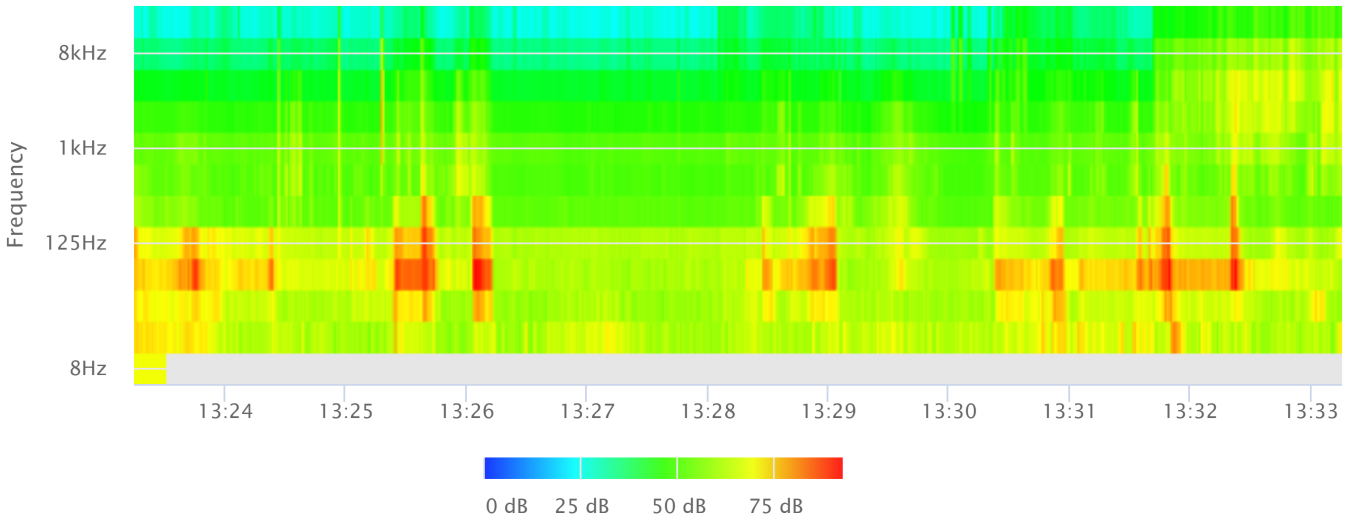
Statistics

LAS 5.0	71.5 dB
LAS 10.0	69.4 dB
LAS 33.3	62.7 dB
LAS 50.0	59.5 dB
LAS 66.6	58.1 dB
LAS 90.0	56.5 dB

Time History



OBA 1/1 Leq



General Information

Serial Number	02509
Model	831
Firmware Version	2.000
Filename	831_Data.001
User	GT
Job Description	
Location	Indian Wells Tennis Garden at practice courts
Measurement Description	
Start Time	Wednesday, 2011 November 09 10:27:24
Stop Time	Wednesday, 2011 November 09 10:42:24
Duration	00:15:00.5
Run Time	00:14:43.5
Pause	00:00:17.0
Pre Calibration	Wednesday, 2011 November 09 10:21:42
Post Calibration	None
Calibration Deviation	---

Note

Approx 5 feet from 4 some playing a tennis match with another tennis match 60 feet away
65 F, 30.2 in Hg, 24% humidity, 2 mph wind, clear sky

Overall Data

LAeq		50.7	dB
LASmax	2011 Nov 09 10:29:47	72.9	dB
LZpeak (max)	2011 Nov 09 10:30:04	98.3	dB
LASmin	2011 Nov 09 10:34:07	41.5	dB
LCeq		60.9	dB
LAeq		50.7	dB
LCeq - LAeq		10.3	dB
LAIeq		58.1	dB
LAeq		50.7	dB
LAIeq - LAeq		7.4	dB
Ldn		50.7	dB
LDay 07:00-23:00		50.7	dB
LNight 23:00-07:00		---	dB
Lden		50.7	dB
LDay 07:00-19:00		50.7	dB
LEvening 19:00-23:00		---	dB
LNight 23:00-07:00		---	dB
LAE		80.1	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	54.3	dBA
LAS10.00	52.8	dBA
LAS33.30	48.8	dBA
LAS50.00	47.0	dBA
LAS66.60	45.7	dBA
LAS90.00	44.0	dBA

LAS > 65.0 dB (Exceedence Counts / Duration)	1 / 0.6	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	At Bin Max	
Gain	+0	dB
Under Range Limit	25.9	dB
Under Range Peak	76.3	dB
Noise Floor	16.8	dB
Overload	141.9	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	55.1	53.6	55.6	58.7	52.8	49.2	48.4	46.1	41.6	36.3	30.3	20.2
LZSmax	77.5	69.5	72.0	65.3	65.7	62.9	74.1	66.7	63.5	50.8	42.9	35.4
LZSmin	44.5	49.4	50.2	51.2	46.2	42.1	38.1	34.8	30.7	23.8	15.2	11.3

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	51.0	49.7	50.2	49.0	49.2	48.5	48.3	50.4	52.8	51.1	56.2	52.7
LZSmax	69.3	70.4	74.9	65.3	65.4	60.5	60.0	61.5	72.0	61.8	63.5	64.5
LZSmin	35.9	37.0	39.1	41.1	41.4	42.6	42.7	44.8	44.3	44.0	45.8	44.5

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	47.8	48.3	48.0	45.3	44.0	43.5	42.6	43.8	44.1	40.8	42.0	41.2
LZSmax	58.8	63.7	64.2	58.0	56.1	61.0	66.8	70.5	69.8	55.2	58.4	66.3
LZSmin	41.1	41.0	39.6	37.9	36.4	35.8	33.8	32.9	32.5	30.2	29.9	29.7

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	38.9	35.5	35.0	32.8	31.8	29.0	27.2	25.5	22.5	18.4	13.8	9.2
LZSmax	62.3	53.6	53.2	47.2	48.0	46.4	40.0	38.1	35.9	34.8	28.4	19.8
LZSmin	27.4	24.9	23.5	20.7	18.5	15.8	12.4	9.8	7.2	6.2	6.4	6.8

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	07 Dec 2010 00:05:22	-26.4
PRM831	09 Nov 2011 10:21:33	-24.4
PRM831	26 Oct 2011 13:26:59	-25.4
PRM831	23 Oct 2011 07:00:42	-25.5
PRM831	21 Oct 2011 19:18:27	-25.9
PRM831	21 Oct 2011 11:49:55	-25.1
PRM831	20 Oct 2011 18:13:39	-24.9
PRM831	20 Oct 2011 15:24:54	-25.2
PRM831	16 Sep 2011 05:30:45	-26.0
PRM831	15 Sep 2011 20:04:18	-26.6
PRM831	26 Jul 2011 15:57:55	-25.7
PRM831	06 Jun 2011 10:37:42	-24.9

General Information

Serial Number	02509
Model	831
Firmware Version	2.112
Filename	831_Data.002
User	GT
Job Description	Northwest Fresno Walmart Relocation
Location	Northwest Fresno Walmart
Measurement Description	
Start Time	Saturday, 2013 July 27 15:49:15
Stop Time	Saturday, 2013 July 27 16:09:15
Duration	00:20:00.6
Run Time	00:20:00.6
Pause	00:00:00.0
Pre Calibration	Saturday, 2013 July 27 13:36:08
Post Calibration	None
Calibration Deviation	---

Note

Located at the eastern portion of the southern parking lot and approx 140 feet south of the front door
96 F, 35% Humidity, 29.48 in Hg, 3 mph wind, partly cloudy

Overall Data

LAeq		63.1	dB
LASmax	2013 Jul 27 15:59:44	79.2	dB
LApeak (max)	2013 Jul 27 16:06:25	102.2	dB
LASmin	2013 Jul 27 15:50:20	49.6	dB
LCeq		74.0	dB
LAeq		63.1	dB
LCeq - LAeq		10.9	dB
LAIeq		67.4	dB
LAeq		63.1	dB
LAIeq - LAeq		4.3	dB
Ldn		63.1	dB
LDay 07:00-23:00		63.1	dB
LNight 23:00-07:00		---	dB
Lden		63.1	dB
LDay 07:00-19:00		63.1	dB
LEvening 19:00-23:00		---	dB
LNight 23:00-07:00		---	dB
LAE		93.9	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	66.7	dBA
LAS10.00	66.3	dBA
LAS33.30	62.8	dBA
LAS50.00	61.7	dBA
LAS66.60	57.7	dBA
LAS90.00	52.8	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	17 / 347.8	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.1	dB
Under Range Peak	75.6	dB
Noise Floor	17.0	dB
Overload	143.1	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	66.7	66.1	71.1	71.6	64.9	59.5	59.6	58.3	56.2	51.8	46.8	44.6
LZSmax	82.6	84.9	82.2	89.3	77.1	67.1	72.4	76.6	76.6	69.0	67.7	63.1
LZSmin	46.5	55.4	53.6	59.0	55.2	49.9	45.5	43.6	40.9	37.7	39.6	42.8

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	63.6	61.5	59.8	58.7	60.7	63.4	67.2	66.6	65.3	65.7	67.5	67.2
LZSmax	80.9	76.9	73.6	75.5	79.8	83.7	80.9	76.8	78.9	83.8	87.4	88.8
LZSmin	37.3	40.3	43.7	45.3	48.2	51.5	55.9	60.4	54.9	53.2	57.5	47.0

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	61.7	61.0	54.9	52.9	57.0	53.2	57.3	54.1	52.1	54.5	53.3	52.7
LZSmax	76.0	71.0	69.8	65.8	64.6	65.6	67.0	71.0	67.1	65.9	72.9	73.0
LZSmin	52.1	48.8	46.7	42.4	46.2	44.6	43.2	38.5	38.6	39.0	39.4	38.2

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	52.5	50.9	50.7	49.0	46.4	44.5	43.0	41.7	41.1	40.0	39.6	40.0
LZSmax	75.9	69.6	63.7	63.8	64.4	64.7	63.3	62.7	62.7	60.8	57.9	52.5
LZSmin	37.2	35.4	34.6	33.1	32.6	32.8	33.6	34.7	35.9	36.7	37.7	39.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	27 Jul 2013 13:36:08	-25.6
PRM831	28 Apr 2013 15:34:24	-25.9
PRM831	23 Apr 2013 10:17:33	-25.0
PRM831	27 Feb 2013 19:15:30	-25.7
PRM831	24 Jan 2013 12:00:16	-25.6
PRM831	15 Jan 2013 07:50:44	-26.2
PRM831	04 Jan 2013 13:47:46	-26.5

APPENDIX E – Traffic and Parking Analysis Update Memo

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: January 18, 2023

TO: Jonathan Bailey, Golf Realty Fund

FROM: Ken Wilhelm, LSA

SUBJECT: Newport Beach Country Club Traffic and Parking Analysis Update, Newport Beach, California

In 2012, the City of Newport Beach (City) approved land use entitlements for the redevelopment of the Newport Beach Tennis Club site that consisted of 7 tennis courts, a 3,725-square-foot (sf) tennis clubhouse, and a 27-unit boutique hotel with a 2,200 sf concierge and guest center and a 7,500 sf spa facility (Approved Project). LSA prepared this traffic and parking analysis memorandum to update the Tennis Club site portion only that was analyzed in the 2009 Traffic and Parking Study prepared by Kimley-Horn and Associates for the Newport Beach Country Club Project for the Tennis Club and Golf Club site (Attachment A).

The Tennis Club site is presently improved with 31 pickleball courts, 16 tennis courts, a 1,100 sf tennis clubhouse, a 500 sf office, and 125 surface parking spaces. Before that, the previous court layout for the Tennis Club site was 24 tennis courts and no pickleball courts. The clubhouse, office, and number of parking spaces have not changed.

The proposed project (Project), an amendment to the Approved Project, includes the addition of 14 hotel units (referred to as bungalows/bungalow lofts/fairway lofts) and keeping 18 of the existing courts (both pickleball and tennis courts). Upon completion, the Project will include a new 3,725 sf tennis clubhouse, 4 tennis courts, 14 pickleball courts, a 41-unit boutique hotel with 14,386 sf of ancillary uses that consist of 2,200 sf concierge and guest center, 7,500 sf spa and fitness center, and 4,686 sf of performance therapy, office, and yoga pavilion, 3 attached condominiums, and 2 single-family detached houses. Figure 1 shows the project site plan.

This traffic analysis memorandum identifies the trip generation and parking requirements based on the Project. The Newport Beach Country Club golf course, located immediately west of the subject site, is not part of this analysis.

TRIP GENERATION

The Project includes 18 courts (4 tennis and 14 pickleball), 41 bungalows/bungalow lofts/fairway lofts (boutique hotel), 14,386 sf of concierge, performance therapy, yoga pavilion and spa/fitness/office use (ancillary to the hotel), 3 condominiums (attached), and 2 single-family (detached) lots. Table A presents the Project trip generation summary compared to the previous court layout, including 24 total courts.

LSA

FIGURE 1

N

0 150 300

FEET

SOURCE: Stearns Architecture

I:\NBC2101\G\Site_Plan.ai (12/28/2022)

Newport Beach Country Club

Site Plan

Table A: Proposed Project Trip Generation Summary (Previous Court Layout)

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Racquet/Tennis Club[2]		Court	27.71	0.66	0.66	1.32	1.91	1.91	3.82
Hotel		Room	7.99	0.26	0.20	0.46	0.30	0.29	0.59
Condominium		DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
Single Family Detached Housing		DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Trip Generation (Existing Approved)									
Racquet/Tennis Club	24	Court	665	16	16	32	46	46	92
New Project Trip Generation									
Tennis & Pickleball Court	18	Court	499	12	12	24	34	34	68
Hotel (Bungalow/Bungalow Loft/Fairway Loft)	41	Room	328	11	8	19	12	12	24
Condominium	3	DU	22	0	1	1	1	1	2
Single-Family Detached Housing (The Villas)	2	DU	19	0	1	1	1	1	2
Total Trip Generation			868	23	22	45	48	48	96
Net Trip Generation (New Project – Existing [Approved])			203	7	6	13	2	2	4

[1] Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition (2021).
Land Use Code 491 - Racquet/Tennis Club
Land Use Code 310 - Hotel
Land Use Code 215 - Single-Family Attached Housing
Land Use Code 210 - Single-Family Detached Housing

[2] The ITE *Trip Generation Manual* 11th Edition does not provide a.m. peak-hour trip rates and the p.m. peak-hour directional distribution. The a.m. peak-hour trip rate and the p.m. peak-hour directional distribution are referenced from the 2009 Traffic Study prepared by Kimley-Horn and Associates.

ADT = average daily trips
DU = dwelling unit

As shown in Table A, the Project would generate 203 additional daily trips, 13 additional trips in the a.m. peak hour, and 4 additional trips in the p.m. peak hour compared to the previous court layout (24 courts).

A comparison has also been made between the Project and the tennis and pickleball court layout currently provided on site. The existing facility includes 31 pickleball and 16 tennis courts on site. Compared to the actual 47 courts on the ground today as shown on Table B, the Project would generate 434 fewer daily trips, 17 fewer trips in the a.m. peak hour and 84 fewer trips in the p.m. peak hour.

Based on the City of Newport Beach Traffic Phasing Ordinance, any project that generates no more than 300 net daily trips is not required to prepare a traffic impact analysis. The project will generate 203 net daily trips compared to the existing (approved) uses and 434 fewer trips compared to the existing (ground) conditions.

Table B: Proposed Project Trip Generation Summary (Existing Court Layout)

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Racquet/Tennis Club[2]		Court	27.71	0.66	0.66	1.32	1.91	1.91	3.82
Hotel		Room	7.99	0.26	0.20	0.46	0.30	0.29	0.59
Condominium		DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
Single-Family Detached Housing		DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Trip Generation (Existing Ground)									
Racquet/Tennis Club	47	Court	1,302	31	31	62	90	90	180
New Project Trip Generation									
Tennis & Pickleball Court	18	Court	499	12	12	24	34	34	68
Hotel (Bungalow/Bungalow Loft/Fairway Loft)	41	Room	328	11	8	19	12	12	24
Condominium	3	DU	22	0	1	1	1	1	2
Single-Family Detached Housing (The Villas)	2	DU	19	0	1	1	1	1	2
Total Trip Generation			868	23	22	45	48	48	96
Net Trip Generation (New Project – Existing [Ground])			(434)	(8)	(9)	(17)	(42)	(42)	(84)

[1] Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition (2021).
Land Use Code 491 - Racquet/Tennis Club
Land Use Code 310 - Hotel
Land Use Code 215 - Single-Family Attached Housing
Land Use Code 210 - Single-Family Detached Housing

[2] The ITE *Trip Generation Manual* 11th Edition does not provide a.m. peak-hour trip rates and the p.m. peak-hour directional distribution. The a.m. peak-hour trip rate and the p.m. peak-hour directional distribution are referenced from the 2009 Traffic Study prepared by Kimley-Horn and Associates.

ADT = average daily trips
DU = dwelling unit

In addition, an intersection should be analyzed in a traffic impact analysis if project trips increase traffic on any legs of any City's primary intersections by 1 percent or more during any peak hours 1 year after the project completion. Pacific Coast Highway/Newport Coast Drive is a primary intersection for the City and is adjacent to the Project site. Given the anticipated future volumes at any legs of this intersection, the addition of 13 trips in the a.m. peak hour and 4 trips in the p.m. peak hour compared to the previous court layout (24 courts) is not expected to increase the traffic at any legs of this intersection or any City primary intersections by 1 percent or more 1 year after project completion. Compared to the existing court layout (47 courts), the project would generate less traffic. As such, a traffic impact analysis should not be required.

PARKING

Based on the 2009 Traffic Study, the Approved Project required 97 parking spaces, using the parking rates outlined in the Newport Beach Country Club Planned Community District Plan (PCD Plan). The Approved Project provided 113 parking spaces on site. As such, there was a surplus of 16 parking spaces on site, based on the Approved Project.

The new Project would result in 131 required parking spaces. Table C presents a summary of the parking requirement for each use. As shown in Table C, the Project would provide a total parking supply of 131 spaces on site. As such, with the proposed changes, the Project would continue to meet the parking requirements outlined in the PCD Plan.

Table C: Proposed Project Parking Demand Summary

Land Use	Size	Parking Rate[1]	Parking Required	Parking Provided	Surplus (Deficit)
Tennis & Pickleball Club (4 Tennis and 14 Pickleball)	18 courts	4 spaces per court	72	72	0
Bungalow	41 units	1 space per unit	41	19	0
Bungalow Loft		1 space per unit		11	
Fairway Loft		1 space per unit		11	
Condominium	3 DUs	4 spaces per DU	12	12	0
Single-Family Detached Homes (The Villas)	2 DUs	3 spaces per DU	6	6	0
		Total	**131**	**131**	**0**

[1] Parking rates referenced from the Newport Beach Country Club Planned Community District Plan Development Standards.
DU = dwelling unit

Shared Parking

The Tennis Club has a shared parking agreement with the adjacent Corporate West Office complex. The Tennis Club has the use of 30 additional parking spaces on weekdays and 554 spaces on weekends and holidays (when the office buildings are not used). This agreement increases the total parking supply to 161 spaces on weekdays and 685 spaces on weekends.

Parking Survey Data

Attendance data were collected at the Tennis Club on Monday, October 17, 2022; Wednesday, October 19, 2022; and Sunday, October 16, 2022. Counts Unlimited, an independent data collection company, identified the number of people that arrived at the facility, and which court (tennis or pickleball) players used. Counts were collected in 15-minute increments between 9:00 a.m. and 7:00 p.m. weekdays and 8:00 a.m. and 12:00 p.m. on weekends (Sunday). The count data are provided in Attachment B.

Based on the 3 days surveyed, the peak 1-hour period occurred on Monday, October 17 between 9:00 a.m. and 10:00 a.m. During this time period, a total of 94 players were on site (21 tennis and 73 pickleball). To present a conservative analysis, if each person parked a vehicle (with no carpools), there would be a peak parking demand of 94 spaces for the 47 total courts provided on site today.

The Project will provide 18 total courts (or 29 fewer than existing). Based on the survey data, it is reasonable to assume that 72 parking spaces (required per Code and provided on site for 18 courts) will accommodate the peak parking demand of the 4 tennis and 14 pickleball courts.

CONCLUSIONS

The Newport Beach Country Club proposes a change to the land uses analyzed and approved in 2012. As a result, the conclusions of the 2009 Traffic Study will remain. The Project would only generate 203 additional daily trips, 13 additional trips in the a.m. peak hour, and 4 additional trips in the p.m. peak hour compared to the approved uses. Compared to the existing tennis and pickleball court layout, the Project would generate fewer daily and peak hour trips. The addition of Project trips in the peak hours (compared to the approved uses) is not expected to increase the traffic at

any legs of the City's primary intersections by 1 percent or more 1 year after the project completion. As such, the Project is not anticipated to result in any operational or level of service deficiencies with the proposed changes. Furthermore, the Project would continue to meet the parking requirements outlined in the PCD Plan. A shared parking agreement with the adjacent office will augment the parking supply on site.

If you have any questions, please contact me at (949) 553-0666.

Attachments: A – Newport Beach Country Club Clubhouse/Tennis Improvement Project Traffic Study (2009)
B – Parking Survey Data

ATTACHMENT A

NEWPORT BEACH COUNTRY CLUB CLUBHOUSE/TENNIS IMPROVEMENT PROJECT TRAFFIC STUDY (2009)

Traffic and Parking Evaluation

for:

Newport Beach Country Club
Clubhouse / Tennis Improvement Project

In the City of Newport Beach

Prepared for:

City of Newport Beach

August, 2009

TRAFFIC AND PARKING EVALUATION
FOR
NEWPORT BEACH COUNTRY CLUB
CLUBHOUSE / TENNIS IMPROVEMENT PROJECT

IN THE CITY OF NEWPORT BEACH

Prepared for:

City of Newport Beach

Prepared by:
Kimley-Horn and Associates, Inc.
765 The City Drive, Suite 400
Orange, California 92868

August, 200

TRAFFIC AND PARKING EVALUATION
FOR THE
NEWPORT BEACH COUNTRY CLUB
CLUBHOUSE / TENNIS IMPROVEMENT PROJECT
IN THE CITY OF NEWPORT BEACH

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TRAFFIC AND PARKING EVALUATION FOR THE NEWPORT BEACH COUNTRY CLUB CLUBHOUSE / TENNIS IMPROVEMENT PROJECT IN THE CITY OF NEWPORT BEACH

INTRODUCTION

This report has been prepared to provide a traffic and parking evaluation for the proposed Newport Beach Country Club Clubhouse and Tennis Improvement Project. Newport Beach Country Club (NBCC) is an existing private golf and tennis club located on East Coast Highway in the City of Newport Beach. The NBCC owner proposes to remodel the facility to remove or reduce the size of some of the site facilities, increase others, and to add residential and resort lodging components. Information for this report has been taken from the Newport Beach Country Club Planned Community District Plan (the PCD Plan), which provides details about the proposed changes to the NBCC site, and provides parking and development standards for the proposed project.

This report will provide a review of the proposed changes to the site uses, site access, and on-site circulation; and will provide an estimate of the change in traffic generation that would result from the proposed site changes. This report will also provide an evaluation of the proposed parking standards and the adequacy of the parking supply.

PROJECT DESCRIPTION

Existing Project

The Newport Beach Country Club is located on the north side of East Coast Highway, between Jamboree Road and Newport Center Drive, in the City of Newport Beach. The site is comprised of private golf club and tennis club facilities, totaling approximately 145 acres.

The golf club portion of the site consists of an 18-hole championship golf course, putting green, golf clubhouse, and golf accessory buildings. The clubhouse contains dining and drinking areas for members, a pro shop, and men's and women's locker rooms. Golf accessory buildings include a golf cart storage barn, a greens-keeper building, restroom facilities, a snack shack, and a starter shack. The tennis club portion of the site consists of a pro shop and lounge, locker rooms, and 24 tennis courts.

The primary access to the Newport Beach Country Club is provided via a drive aisle that connects to the end of Irvine Terrace, which in turn connects to East Coast Highway (State Highway 1). Irvine Terrace also provides access to the adjacent Corporate Plaza West development. The intersection of Irvine Terrace at East Coast Highway is signalized.

The main NBCC drive aisle (labeled Country Club Drive on the site plan) splits in both directions from the end of Irvine Terrace, with the drive aisle to the left leading to the main parking area in front of the golf clubhouse, and the drive aisle to the right leading to the parking for the tennis courts. On the far side of the tennis parking area is a driveway connection to Granville Drive, which provides a direct connection to Newport Center Drive.

Parking for NBCC consists of a large surface parking lot in front of the golf clubhouse building with 420 parking spaces, and a surface lot adjacent to the tennis courts with 125 parking spaces.

Proposed Project

The proposed project involves the remodel or replacement of some of the site facilities, the removal of some facilities, and the construction of a number of new facilities. Upon completion, the site will consist of the 18-hole golf course, 7 tennis courts, 27 rental bungalows, and 5 custom single-family homes. A copy of the proposed project site plan is provided on **Figure 1**. A summary of the existing site uses and the proposed site changes is provided on **Table 1**.

TABLE 1
NEWPORT BEACH COUNTRY CLUB
SUMMARY OF EXISTING AND PROPOSED USES

Land Use	Units	Quantity		
		Existing	Proposed	Change
Golf Course	Holes	18	18	0
Tennis Courts	Courts	24	7	-17
Bungalows	Rooms	0	27	27
Villas	Dwelling Units	0	5	5

The site plan indicates that the project entry and circulation through the site will be modified, and the parking areas will be reconfigured. A total of 413 parking spaces will be provided to serve the new site uses.

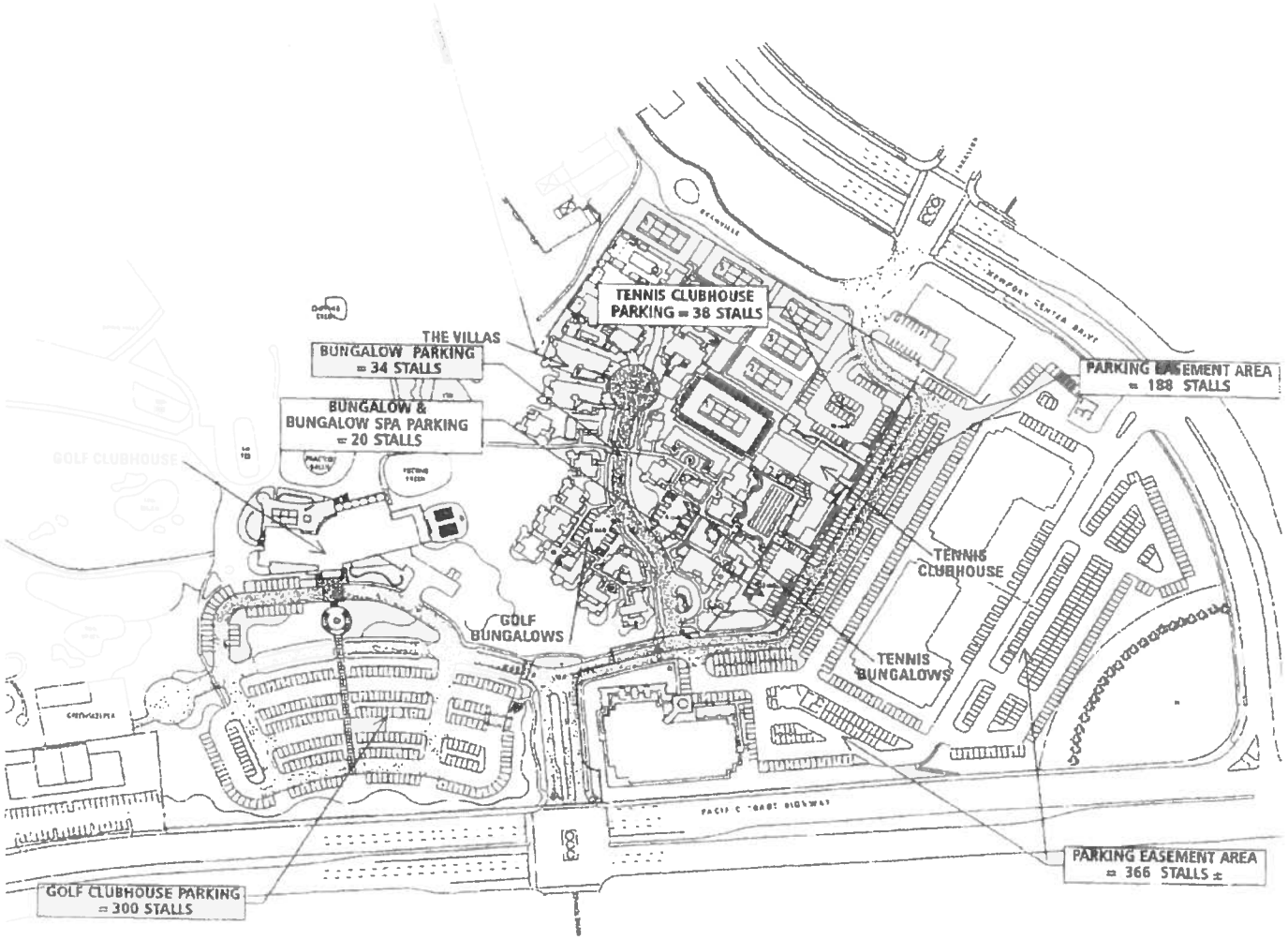


FIGURE 1
PROPOSED SITE PLAN

FILENAME: Aug 13, 2009 - 10:15am K:\ORA_TPTO\ZSAC\Projects\Newport Beach Country Club\NBCC Plan Owner's Plan - O'Hill\2nd Submittal - OHill Owner\CADD\Figures.dwg

Kimley-Horn and Associates, Inc.

PROJECT TRAFFIC

Project Trip Generation

Trip generation estimates for the proposed Newport Beach Country Club project were derived from the Institute of Transportation Engineers (ITE) Trip Generation, (8th Edition) publication. Based on the existing and proposed land uses at the project site, four ITE Land Use Categories were used for this analysis:

- Golf Course (Category 430),
- Racquet / Tennis Club (Category 491),
- Hotel (Category 310), and
- Single-Family Residential (Category 210).

The daily and peak hour trip generation rates used for each category are shown on **Table 2**.

TABLE 2
NEWPORT BEACH COUNTRY CLUB
SUMMARY OF PROJECT TRIP GENERATION

Land Use	ITE Code	Unit	Trip Generation Rates [1]						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Golf Course	430	Hole	35.74	1.76	0.47	2.23	1.23	1.51	2.74
Tennis Courts	491	Court	38.70	0.66	0.66	1.32	1.68	1.68	3.36
Hotel	310	Room	8.17	0.34	0.22	0.56	0.31	0.28	0.59
Single-Family Residential	210	DU	9.57	0.19	0.56	0.75	0.640	0.370	1.01

Land Use	Units	Trip Generation Estimates						
		Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Existing Uses								
Golf Course	18 Holes	643	32	8	40	22	27	49
Tennis Courts	24 Courts	929	16	16	32	40	40	80
Total Trips - Existing Uses		**1,572**	**48**	**24**	**72**	**62**	**67**	**129**
Proposed Uses								
Golf Course	18 Holes	643	32	8	40	22	27	49
Tennis Courts	7 Courts	271	5	5	10	12	12	24
Hotel (Golf and Tennis Bungalows)	27 Rooms	221	9	6	15	8	8	16
Single-Family Residential (The Villas)	5 DU	48	1	3	4	3	2	5
Total Trips - Proposed Uses		**1,183**	**47**	**22**	**69**	**45**	**49**	**94**
Net New Trips		**-389**	**-1**	**-2**	**-3**	**-17**	**-18**	**-35**

[1] Source: Institute of Transportation Engineers (ITE) Trip Generation publication (8th Edition)

DU = Dwelling Unit

Trip generation for the existing and the proposed project uses are based on the land use quantities for each land use, as shown on Table 2. Trips generated by the existing land uses were calculated and subtracted from the trips that will be generated by the proposed development.

Table 2 shows that with the removal of 17 tennis courts, and the addition of 27 hotel rooms (The Bungalows) and 5 custom homes (The Villas), the proposed Newport Beach Country Club project is estimated to generate 389 fewer trips per day than the existing uses, with 3 fewer trips in the morning peak hour, and 35 fewer trips in the evening peak hour.

Since the proposed Newport Beach Country Club project will generate less daily and peak hour traffic than the existing development on the site, no analysis of the project's traffic impact on the surrounding street system is necessary.

SITE ACCESS AND CIRCULATION

The project site plan reflects proposed on-site changes to the main parking area in front of the Golf Clubhouse, including landscaping and beautification of the area, and minor changes to the site circulation. The site's access to the public street system at East Coast Highway (via Irvine Terrace) and at Granville Drive will remain.

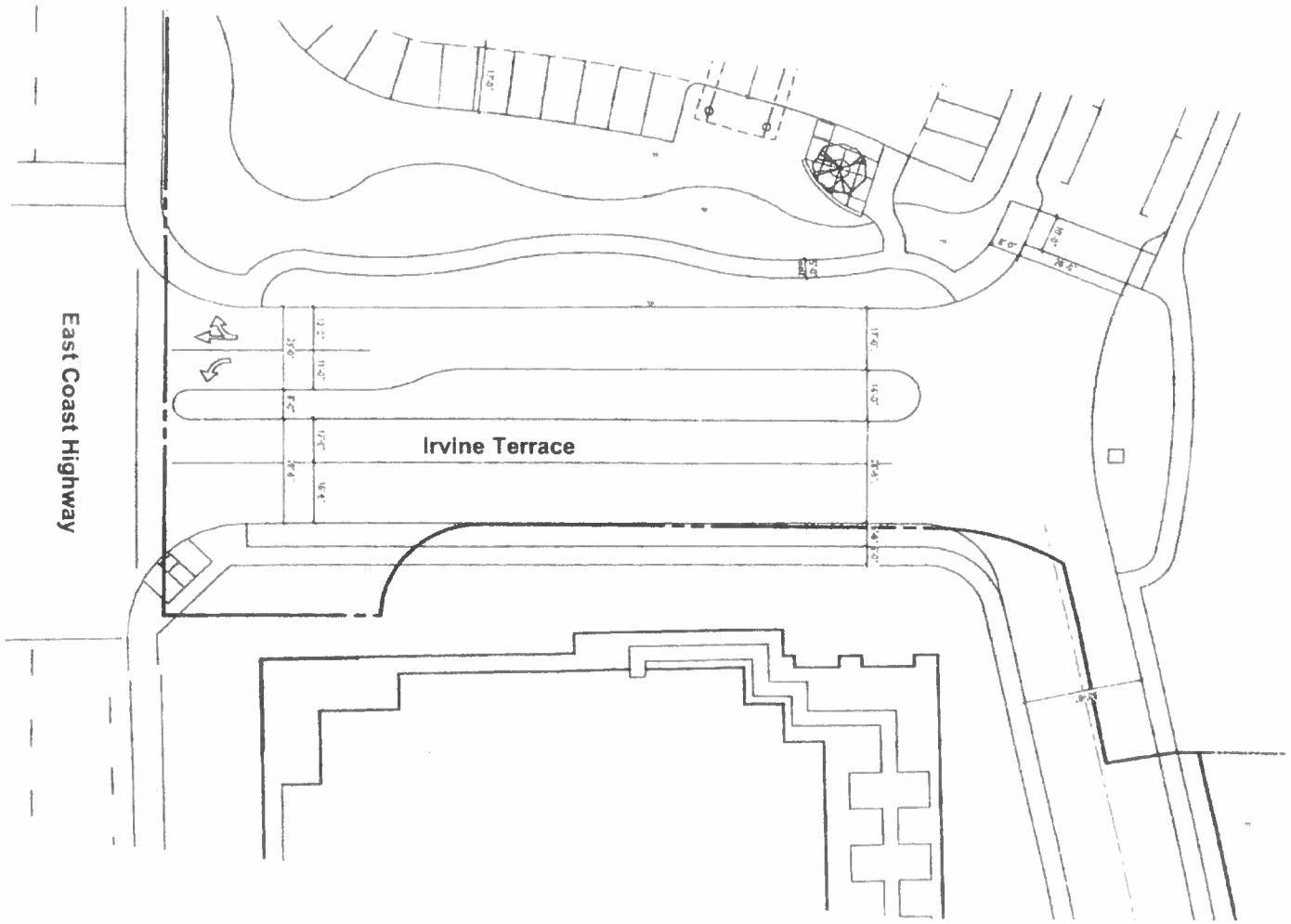
A copy of the proposed improvements on Irvine Terrace is provided on **Figure 2**. Irvine Terrace will be improved to provide a landscaped median, and will be striped to delineate two inbound lanes and two outbound lanes. It is recommended that the left-turn pocket at the intersection of E. Coast Highway be lengthened to provide a minimum of 100 feet plus the transition.

Access to the golf clubhouse will be improved as follows:

- A new drive aisle with a drop-off area will be added to the front of the clubhouse. A second internal entry point to the main parking lot will be added at the northwest corner of the lot. The parking rows in the main body of the parking lot will be reconfigured to an east-west orientation, with access aisles provided on both ends of parking lot. Each of the drive aisles is shown to be 26 feet in width, which provides adequate room for circulation, turning, and backing for 90-degree parking spaces.

- The secondary entrance to the golf course parking lot which is located immediately adjacent to the Irvine Terrace / East Coast Highway intersection, as well as the external drive aisle that runs parallel to East Coast Highway between the parking lot and East Coast Highway, will be eliminated, and the affected area will be incorporated into the parking area.

- Pedestrian access from the golf course parking lot will be improved by a pedestrian walkway with enhanced paving through the center of the parking lot, connecting directly to the golf clubhouse.



NOT TO SCALE

FIGURE 2
PROPOSED CIRCULATION MODIFICATIONS

FILENAME: Aug 13, 2009 - 10:24am K:\ORA_TPTO\ZSAC\Projects\Newport Beach Country Club\NBCC Plan Owner's Plan - OHill\2nd Submittal - OHill Owner\CADD\Figures.dwg

Kimley-Horn and Associates, Inc.

Access to the tennis area and new development will be improved as follows:

- The drive aisle leading to the tennis area will be shifted slightly to the south (closer to East Coast Highway) to accommodate the new development.

- A new access road and cul-de-sac will provide access to The Bungalows and to The Villas, which will be constructed on a portion of the area now developed with tennis courts. Parallel parking will be allowed along the road, but not on the cul-de-sac.

- Small parking areas will be added by the tennis courts, tennis clubhouse, and bungalows, to provide convenient access for each of these uses.

SITE PARKING

The development standards in the Newport Beach Country Club Planned Community District Plan (PCD Plan) include parking requirements for each of the proposed site uses. A summary of the parking rates specified in the Planned Community District Plan, compared to the parking code requirements specified in the City of Newport Beach Zoning Code is provided on **Table 3**.

TABLE 3
NEWPORT BEACH COUNTRY CLUB
SUMMARY OF PARKING RATES

Land Use	Parking Requirement	
	NBCC PCD Plan	Newport Beach Zoning Code
Golf Course	244 total	As specified by the Planning Director
Tennis Club	4 per court	4 per court
Tennis Spa	4 per 1,000 SF	4 per 1,000 SF
Bungalows (Bed & Breakfast)	1 per rental unit	1 per guest room, plus 2
Villas (Single-Family Residence)	2 covered and 2 off-street per home	2 enclosed per unit

As reflected on Table 3, the parking standards proposed in the PCD Plan are generally similar to the City's parking code requirements, with the exception of the parking requirement for the Golf Course. The PCD Plan has established a parking requirement of 244 parking spaces for the Golf Course and the Golf Clubhouse. The City's Zoning Code does not specify a parking rate for golf courses, but rather indicates that the parking requirement for "other commercial recreation uses" will be "As specified by the Planning Director".

Although the PCD Plan does not provide a breakdown of how the 244-space requirement was derived, it appears to be reasonable, based on the following analysis:

The Institute of Transportation Engineers (ITE) Parking Generation publication contains parking rates for golf courses, based on empirical data collected at a number of golf course facilities, including 18-hole golf courses. The ITE data indicates that the parking demand for an 18-hole golf course ranged from 8.33 to 10.33 parking spaces per hole. The average of each of the peak parking demands for all golf courses studied was 8.68 spaces per hole. If the highest parking rate of 10.33 spaces per hole is applied, the parking requirement for the NBCC golf course would be 186 spaces (18 holes x 10.33 spaces per hole = 185.9 spaces).

Assuming a worst-case condition during golf course operations, 4 of the 10.33 spaces per hole would account for a foursome on every hole, if every golfer drove their own vehicle to the golf course. This would leave 6.33 spaces per hole for other people waiting for their tee time, plus people on the driving range, at the putting green, in the lounge, or in the restaurant.

The parking requirement of 244 parking spaces suggested by the PCD Plan would provide an additional 58 spaces for parking demand that might occur above and beyond the 10.33 per hole (244 spaces required by the PCD Plan – 186 spaces required using ITE maximum rates = 58 additional spaces). A parking requirement of 244 spaces appears reasonable for the NBCC Golf Course and Clubhouse. The project site plan (Figure 1, previously presented) indicates that a total of 300 parking spaces are proposed for the golf course parking lot.

The parking required for all of the uses proposed for the NBCC project is summarized on **Table 4**. Based on the parking requirements established by the PCD Plan, the proposed site uses would require 341 parking spaces.

TABLE 4
NEWPORT BEACH COUNTRY CLUB
SUMMARY OF PARKING REQUIRED AND PROVIDED

Land Use	Quantity	Unit	Parking Rate [1]	Parking Required	Parking Provided	Surplus (Deficit)
Golf Course	18	Hole	NA	244	300	56
Tennis Club	7	Court	4	28	58	8
Tennis Spa	5.56	KSF	4	22		
Bungalows	27	Room	1	27	34	7
Villas	5	DU	4	20	21	1
Total				**341**	**413**	72

[1] Source: Newport Beach Country Club Planned Community District Plan Development Standards

The project site plan indicates that a total of 413 parking spaces will be provided, resulting in a parking supply that exceeds the parking requirement by 72 spaces. Moreover, the parking supply provided specifically for each individual use exceeds the parking required for that use. Most notably, the golf course parking lot will provide 300 spaces, which exceeds the 244-space requirement established by the PCD Plan by 56 spaces.

The proposed parking supply of 413 spaces will be adequate to meet the day-to-day parking needs of the proposed NBCC project.

In addition to the on-site parking supply, the site plan indicates that the NBCC has a parking easement with the adjacent Corporate Plaza West development. A parking analysis prepared for the NBCC project (Newport Beach Country Club Parking Supply Analysis, LSA, August 20, 2008) indicates that through this parking easement, an additional 554 parking spaces would be available to the NBCC in the evenings and on weekends and holidays, if needed for parking overflow during tennis and golf events. The parking analysis also indicates that in the event that a large gathering occurs during weekday business hours, which would cause the parking demand to exceed the parking supply on a typical weekday, a separate Parking Management Plan would be required to address off-site parking needs.

ATTACHMENT B

PARKING SURVEY DATA

Newport Beach
Newport Beach Country Club Survey
One Clubhouse Dr, Newport Beach, CA 92660

Sunday, October 16th, 2022

		8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:15 AM	9:30 AM	9:45 AM	10:00 AM	10:15 AM	10:30 AM	10:45 AM	11:00 AM	11:15 AM	11:30 AM	11:45 AM
Vehicle Arrivals	Tennis	2	1	1	6	9	2	3	2	2	1	2	1	4	1	2	2
	Pickleball	2	2	4	11	7	11	5	1	2	3	28	23	7	3	2	1
	Total	**4**	**3**	**5**	**17**	**16**	**13**	**8**	**3**	**4**	**4**	**30**	**24**	**11**	**4**	**4**	**3**

Monday, October 17th, 2022

		9:00 AM	9:15 AM	9:30 AM	9:45 AM	10:00 AM	10:15 AM	10:30 AM	10:45 AM	11:00 AM	11:15 AM	11:30 AM	11:45 AM
Vehicle Arrivals	Tennis	8	9	1	3	2	0	1	2	1	1	2	6
	Pickleball	22	40	5	6	6	10	10	1	2	0	1	1
	Total	**30**	**49**	**6**	**9**	**8**	**10**	**11**	**3**	**3**	**1**	**3**	**7**

		4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
Vehicle Arrivals	Tennis	2	0	2	0	1	0	1	1	0	0	0	0
	Pickleball	5	9	20	23	13	10	4	8	3	0	2	1
	Total	**7**	**9**	**22**	**23**	**14**	**10**	**5**	**9**	**3**	**0**	**2**	**1**

Wednesday, October 19th, 2022

		9:00 AM	9:15 AM	9:30 AM	9:45 AM	10:00 AM	10:15 AM	10:30 AM	10:45 AM	11:00 AM	11:15 AM	11:30 AM	11:45 AM
Vehicle Arrivals	Tennis	1	1	0	5	0	1	0	2	1	1	2	7
	Pickleball	20	35	5	8	4	4	2	5	6	4	1	1
	Total	**21**	**36**	**5**	**13**	**4**	**5**	**2**	**7**	**7**	**5**	**3**	**8**

		4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	6:00 PM	6:15 PM	6:30 PM	6:45 PM
Vehicle Arrivals	Tennis	2	2	1	0	0	1	0	1	0	0	0	0
	Pickleball	6	11	17	24	9	6	11	4	6	8	3	1
	Total	**8**	**13**	**18**	**24**	**9**	**7**	**11**	**5**	**6**	**8**	**3**	**1**

APPENDIX F – Mitigation Monitoring and Reporting Plan

MITIGATION MONITORING AND REPORTING PLAN

TENNIS CLUB AT NEWPORT BEACH
PROJECT AMENDMENT

Prepared for:

CITY OF NEWPORT BEACH
100 Civic Center Drive
Newport Beach, California 92660

Prepared by:

5 Hutton Centre Drive, Suite 750
Santa Ana, California 92707

August 2022

MITIGATION MONITORING AND REPORTING PLAN

Public Resources Code, Section 21081.6 (Assembly Bill 3180) requires that mitigation measures identified in environmental review documents prepared in accordance with California Environmental Quality Act (CEQA) are implemented after a project is approved. Therefore, this Mitigation Monitoring and Reporting Plan (MMRP) has been prepared to ensure compliance with the adopted mitigation measures during the construction phase of Tennis Club at Newport Beach. In addition, appropriate project design features and standard conditions are included to tract compliance.

This MMRP has been updated to be in line with the analysis included in the Addendum to the Tennis Club at Newport Beach Project Amendment. Although a revised mitigation measure and new standard conditions are included, these are not considerably different from those included in the previous MMRP for the 2010 MND, and would not meet any of the conditions listed in 15162 of the CEQA Guidelines.

The City of Newport Beach is the agency responsible for implementation of the mitigation measures identified in the MND. This MMRP provides the Newport Beach with a convenient mechanism for quickly reviewing all the mitigation measures including the ability to focus on select information such as timing. The MMRP includes the following information for each mitigation measure:

- The phase of the project during which the required mitigation measure must be implemented;
- The phase of the project during which the required mitigation measure must be monitored; and
- The enforcement agency.

The MMRP includes a checklist to be used during the mitigation monitoring period. The checklist will verify the name of the monitor, the date of the monitoring activity, and any related remarks for each mitigation measure.

MITIGATION MONITORING AND REPORTING PLAN Tennis Club at Newport Beach							
Mitigation Measure	Implementation Phase	Monitoring Phase	Enforcement Agency	Level of Significance After Mitigation	Verification of Compliance		
					Initial	Date	Remarks
Cultural Resources							
MM-1: The City shall provide an opportunity for a Native American representative to monitor excavation activities. The representative shall be determined by the City based on input from concerned Native American tribes (i.e., Gabrielino, Juaneno, and Tongvas).	Prior to issuance of grading permit	Construction	Planning Division	Less than Significant			
Geology and Soils							
MM-2: The project shall be designed to incorporate the recommendations included in "Revised Preliminary Geotechnical Design Parameters for the NBCC Planned Community' (April 25, 2008) and "Report of Geotechnical Studies and Review of Vesting Tentative Tract Map No. 15347" (May 2, 2008) prepared by GMU Geotechnical that address site grading, site clearing, compaction, bearing capacity and settlement, lateral pressures, footing design, slabs on grade, retaining wall design, subdrain design, concrete, surface drainage, landscape maintenance, etc. The Building Division shall review the grading plan to ensure conformance with recommendations contained in the final geotechnical report.	Prior to issuance of grading permit	Prior to construction	Building Division	Less than significant			
Noise[1]							
MM-3: During rock crushing operations, a sound blanket shall be used if a direct line of sight exists between the crusher any off-site homes.	Construction	During rock crushing operations	Building Division	Less than significant			
MM-4: All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.	Construction	During construction activities	Building Division	Less than significant			
MM-5: Prior to issuance of a grading permit, a construction schedule shall be developed that minimizes potential project-related and cumulative construction noise levels.	Prior to issuance of grading permit	Prior to construction	Community Development Department	Less than significant			
MM-6: The construction contractor shall notify the residents of the construction schedule for the Project, and shall keep them informed on any changes to the schedule. The notification shall also identify the name and phone number of a contact person in case of complaints. The contact person shall take all reasonable steps to resolve the complaint.	Prior to issuance of grading permit	Prior to construction	Building Division	Less than significant			
MM-7: Heating, venting, and air conditioning (HVAC) equipment in or adjacent to residential areas shall be shown by computation, based on the sound rating of the proposed equipment, not to exceed an A-weighted sound pressure level of fifty (50) dBA or not to exceed an A-weighted sound pressure level of fifty-five (55) dBA.	Prior to issuance of building permit	Prior to construction	Community Development Department	Less than significant			
Transportation/Traffic							
	Prior to construction	Construction	Planning Division and Public Works Department	Less than significant			
MM-9: The left turn pocket on Irvine Terrace at the Coast Highway shall be increased in length to a minimum of 100 feet plus transition in order to adequately accommodate left-turn movements.	Prior to issuance of building permit	Construction	Public Works Department	Less than significant			

[1] The Noise mitigation measures from the 2010 MND have been included in this MMRP in order to be consistent with the measures included in the 2010 MND. Although the new analysis found impacts to be less than significant without mitigation measures, implementation of these measures will ensure that no impacts would occur to sensitive receptors.

MITIGATION MONITORING AND REPORTING PLAN Tennis Club at Newport Beach							
Mitigation Measure	**Implementation Phase**	**Monitoring Phase**	**Enforcement Agency**	**Level of Significance After Mitigation**	**Verification of Compliance**		
					Initial	**Date**	**Remarks**
MM-TRA-1[2]: Prior to commencement of each major phase of construction (i.e., Demolition and Grading, Construction of Hotel and Tennis Clubhouse and, Construction of Residential units), the Applicant shall submit a Construction Management Plan (aka Construction Staging, Parking and Traffic Control Plan) for approval by the Public Works Department, which shall address issues pertaining to potential traffic conflicts during peak traffic periods, potential displacement of on-street parking, and safety. • This plan shall identify the proposed construction staging area(s), construction crew parking area(s), estimated number and types of vehicles that will occur during each phase, the proposed arrival/departure routes and operational safeguards (e.g. flagmen, barricades, etc.) and hourly restrictions, if necessary, to avoid traffic conflicts during peak traffic periods and to ensure safety. • If necessary, the Construction Management Plan shall provide for an off-site parking lot for construction crews which will be shuttled to and from the project site at the beginning and end of each day until such time that the project site can accommodate off-street construction vehicle parking. • The plan shall identify all construction traffic routes, which shall avoid narrow streets unless there is no alternative, and the plan shall not include any streets where some form of construction is underway within or adjacent to the street that would impact the efficacy of the proposed route. • Dirt hauling shall not be scheduled during weekday peak hour traffic periods. • The approved Construction Management Plan shall be implemented throughout each major construction phase.	Prior to construction	Construction	Planning Division and Public Works Department	Less than significant			

MITIGATION MONITORING AND REPORTING PROGRAM Tennis Club at Newport Beach						
Project Design Features	**Implementation Phase**	**Monitoring Phase**	**Enforcement Agency**	**Verification of Compliance**		
				Initial	**Date**	**Remarks**
Greenhouse Gas Emissions						
PDF-1: Design of buildings shall take into account the location of building air intake to maximize ventilation efficiency and incorporate natural ventilation.	Prior to issuance of building permit	Prior to issuance of building permit	Prior to issuance of building permit			
PDF-2: The buildings shall incorporate energy-conserving heating and lighting systems.	Prior to issuance of building permit	Prior to issuance of building permit	Prior to issuance of building permit			
PDF-3: The project shall incorporate fast-growing, low water use landscape to enhance carbon sequestration and reduce water use.	Prior to issuance of building permit	Prior to issuance of building permit	Building Division Building Division and Public Works Department			

[2] MM-8 that was previously included for traffic analysis was replaced by MM TRA-1.

MITIGATION MONITORING AND REPORTING PROGRAM Tennis Club at Newport Beach						
Standard Conditions	**Implementation Phase**	**Monitoring Phase**	**Enforcement Agency**	**Verification of Compliance**		
				Initial	**Date**	**Remarks**
Aesthetics						
SC-1: Prior to the issuance of building permits, the applicant shall prepare a photometric study in conjunction with a final lighting plan for approval by the Planning Division. The site shall not be excessively illuminated based on the luminance recommendations of the Illuminating Engineering Society of North America, or, if in the opinion of the Planning Director, the illumination creates an unacceptable negative impact on surrounding land uses or environmental resources. The Planning Director may order the dimming of light sources or other remediation upon finding that the site is excessively illuminated.	Prior to issuance of building permit	Prior to construction hotel component and tennis club component[3]	Planning Division			
Air Quality						
SC-2: Adherence to SCAQMD Rule 402, which prohibits air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property to be emitted within the SoCAB.	During construction activities	During construction activities	Community Development Department			
SC-3: Adherence to SCAQMD Rule 403, which sets requirements for dust control associated with grading and construction activities.	During construction activities	During construction activities	Community Development Department			
SC-4: Adherence to SCAQMD Rules 431.1 and 431.2, which require the use of low sulfur fuel for stationary construction equipment.	During construction activities	During construction activities	Community Development Department			
SC-5: Adherence to SCAQMD Rule 1108, which sets limitations on ROG content in asphalt.	During construction activities	During construction activities	Community Development Department			
SC-6: Adherence to SCAQMD Rule 1113, which sets limitations on ROG content in architectural coatings.	During construction activities	During construction activities	Community Development Department			
SC-7: Adherence to Title 24 energy-efficient design requirements as well as the provision of window glazing, wall insulation, and efficient ventilation methods in accordance with the requirements of the California Building Code.	Prior to issuance of building permits	During building plan check process	Building Division			
Cultural Resources						
SC-8: A qualified archaeological/paleontological monitor shall be retained by the Project applicant who will be available during the grading and landform alteration phase. In the event that cultural resources and/or fossils are encountered during excavations in the vicinity of the discovery shall be redirected or halted by the monitor until the find has been salvaged. The area surrounding any cultural materials or fossils encountered during grading shall also be investigated to determine the extent of the site. Any artifacts and/or fossils discovered during Project construction shall be prepared to a point of identification and stabilized for long-term storage. Any discovery, along with supporting documentation and an itemized catalogue, shall be accessioned into the collections of a suitable repository. Curation costs to accession any collections shall be the responsibility of the Project applicant.	Prior to issuance of grading permit	During construction operations	Planning Division			
SC CULT-1: In compliance with City Council Policy K-5 Paleontological and Archaeological Resource Protection Guidelines, prior to the issuance of a grading	Prior to issuance of a grading permit, and	During construction activities	Planning Division			

[3] The golf club portion that was in the original 2010 MND has been removed, since this is not a part of the Proposed Project.

MITIGATION MONITORING AND REPORTING PROGRAM Tennis Club at Newport Beach						
Standard Conditions	**Implementation Phase**	**Monitoring Phase**	**Enforcement Agency**	**Verification of Compliance**		
				Initial	**Date**	**Remarks**
permit by the City of Newport Beach, the Applicant shall retain a qualified archaeologist to periodically monitor ground-disturbing activities onsite and provide documentation of such retention to the City of Newport Beach Community Development Director. The archaeologist shall train project construction workers on the types of archaeological resources that could be found in site soils. The archaeologist shall periodically monitor project ground-disturbing activities. During construction activities, if Native American resources (i.e., Tribal Cultural Resources) are encountered, a Cultural Resource Monitoring and Discovery Plan (CRMDP) shall be created and implemented to lay out the proposed personnel, methods, and avoidance/recovery framework for tribal cultural resources monitoring and evaluation activities within the project area. A consulting Native American tribe shall be retained and compensated as a consultant/monitor for the project site from the time of discovery to the completion of ground disturbing activities to monitor grading and excavation activities. If archaeological resources are encountered, all construction work within 50 feet of the find shall cease, and the archaeologist shall assess the find for importance and whether preservation in place without impacts is feasible. Construction activities may continue in other areas. If, in consultation with the City and affected Native American tribe (as deemed necessary), the discovery is determined to not be important, work will be permitted to continue in the area. Any resource that is not Native American in origin and that cannot be preserved in place shall be curated at a public, nonprofit institution with a research interest in the materials, such as the South Central Coastal Information Center at California State University, Fullerton.	during construction activities					
SC CULT-2: California Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered within the project site, disturbance of the site shall be halted until the coroner has conducted an investigation into the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.	During construction activities	During construction activities	Planning Division			
Geology and Soils						
SC-9: All grading operations and construction shall comply with applicable City of Newport Beach Grading Code and Grading Manual and the most recent version of the California Building Code.	During grading and construction operations	During grading and construction operations	Building Division			
SC-10: Prior to issuance of the grading permit, an erosion control plan shall be submitted to and approved by the City's Building Division.	Prior to construction	Prior to issuance of grading permit	Building Division			
SC-11: Prior to issuance of the grading permit, the applicant shall submit a soil engineering report and final geotechnical report to the City's Building Division for approval.	Prior to construction	Prior to issuance of grading permit	Building Division			
Greenhouse Gas Emissions						

MITIGATION MONITORING AND REPORTING PROGRAM Tennis Club at Newport Beach						
Standard Conditions	**Implementation Phase**	**Monitoring Phase**	**Enforcement Agency**	**Verification of Compliance**		
				Initial	**Date**	**Remarks**
SC-12: All new buildings shall meet Title 24 requirements.	Prior to issuance of building permit	Prior to issuance of building permit	Building Division			
SC-13: Water conservation design features shall be incorporated into building and landscape designs.	Prior to issuance of building permit	Prior to issuance of building permit	Planning Division and Public Works Department			
Hazards and Hazardous Materials						
SC-14: Prior to any disturbance of the construction materials within the tennis clubhouse, a comprehensive asbestos containing material (ACM) and lead based paint (LBP) survey shall be conducted. Any repairs, renovations, removal or demolition activities that will impact the ACM and/or LBP or inaccessible ACM shall be performed by a licensed asbestos contractor. Inaccessible suspect ACM shall be tested prior to demolition or renovation. Proper safety procedures for the handling of suspect ACM and LBP shall be followed in accordance with federal, state and local regulatory requirements federal and California Occupation Safety and Health Administration (OSHA), and Air Quality Management District (AQMD) Rule 1403, which sets forth specific procedures and requirements related to demolition activities involving asbestos containing materials and SCAQMD Regulation X - National Emission Standards For Hazardous Air Pollutants, Subpart M - National Emission Standards For Asbestos, which include demolition activities involving asbestos.	Prior to construction	Prior to issuance of demolition permit for buildings	Building Division			
SC-15: During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.	During construction, demolition, grading, and excavation	During construction, demolition, grading, and excavation	Building Division			
Hydrology and Water Quality						
SC-16: Prior to issuance of a grading permit, the project applicant shall be required to submit a notice of intent (NOI) with the appropriate fees to the State Water Quality Resources Control Board for coverage of such future projects under the General Construction Activity Storm Water Runoff Permit prior to initiation of construction *activity* at a future site. As required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish BMPs in order to reduce sedimentation and erosion.	Prior to construction	Prior to issuance of grading permit	Building Division and Public Works Department			
SC-17: Prior to issuance of a grading permit, the project applicant shall prepare a Water Quality Management Plan (WQMP) for the project and submit the WQMP to the City of Newport Beach for approval. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used to control predictable pollutant runoff, including flow/volume-based measures to treat the "first flush." The WQMP shall identify at a minimum the routine structural and non-structural measures specified in the Countywide NPDES Drainage Area Master Plan (DAMP), which details implementation of the BMPs whenever they are applicable to a project, the assignment of long-term maintenance responsibilities, and shall reference the locations of structural BMPs.	Prior to construction	Prior to issuance of grading permit	Building Division and Public Works Department			
SC-18: Prior to issuance of a grading permit, the project applicant shall prepare a Storm Water Pollution and Prevention Plan (SWPPP). The SWPPP will establish BMPs in order to reduce sedimentation and erosion and prevent construction pollutants from	Prior to construction	Prior to issuance of grading permit	Building Division and Public Works Department			

MITIGATION MONITORING AND REPORTING PROGRAM Tennis Club at Newport Beach						
Standard Conditions	Implementation Phase	Monitoring Phase	Enforcement Agency	Verification of Compliance		
				Initial	Date	Remarks
leaving the site. The project shall also incorporate all monitoring elements as required in the General Construction Permit. The project applicant shall also develop an erosion and sediment control plan to be reviewed and approved by the City of Newport Beach prior to issuance of grading permit.						
SC-19: Future site grading and construction shall comply with the drainage controls imposed by the applicable building code requirements prescribed by the City of Newport Beach.	During grading and construction activities	During grading and construction activities	Building Division and Public Works Department			

APPENDIX G – 2010 MND and Errata

CITY OF NEWPORT BEACH
ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Newport Beach Country Club Planned Community (PA2005-140)

2. **Lead Agency Name and Address:** City of Newport Beach
Planning Department
3300 Newport Boulevard,
Newport Beach, CA 92658-8915

3. **Contact Person and Phone Number:** Rosalinh Ung, Planning Department
Rung@newportbeachca.gov
(949) 644-3208

4. **Project Location:** 1600-1602 East Coast Highway
Newport Beach, CA

5. **Project Sponsor's Name and Address:** Byron de Arakal
180 Newport Center Drive, Suite 219
Newport Beach, CA 92660

6. **General Plan Designation:** MU-H3 (Mixed Use Horizontal)
PR (Parks and Recreation)

7. **Zoning:** Newport Beach Country Club Planned Community

8. **Introduction:**

The subject property is currently occupied by the Newport Beach Country Club (the "Golf Club") and The Tennis Club formerly known as the Balboa Bay Racquet Club (the "Tennis Club"), which are located within the Newport Beach Country Club Planned Community (PC) District that was adopted in 1997 by Ordinance No. 97-10. The Tennis Club and the Golf Club facilities total approximately 145 acres. The adopted Land Use Element designates the Tennis Club site as Mixed Use – Horizontal 3 (MU-H3). The Golf Club is designated as Park and Recreation (PR). The applicant is proposing a Planned Community Text adoption, Transfer of Development Rights, Vesting Tentative Tract Map, Coastal Development Permit, and Development Agreement to implement the proposed project. A PC District Text was not adopted when the PC District zoning was adopted in 1997. The proposed Planned Community Text is intended to provide for the classification and development of parcels of land as a coordinated, cohesive, comprehensive large-scale planning project as set forth in Chapter 20.35.010 of the Newport Beach Zoning Code. The proposed Planned Community Text allows for limited mixed uses, including the private Tennis Club, the private Golf Clubhouse, "The Bungalows" (a small boutique hotel consisting of twenty-seven short-term visitor-serving units, a spa/fitness area, and concierge and guest meeting facilities), and the Villas consist of five single-unit, semi-custom residential dwelling units.

9. **Project Description:**

Project Location

The subject property (refer to the Vicinity Map), encompasses approximately 145 acres adjacent to Fashion Island in the City of Newport Beach. The site is generally bordered by East Coast Highway on the south, Jamboree Road on the West, Santa Barbara Avenue and Newport Center on the north, and Corporate Plaza West on the east and south.

Existing Improvements

The Tennis Club presently consists of 24 tennis courts, a 3,725 square foot Tennis Clubhouse, and 125 surface parking spaces. The Golf Club presently consists of a 6,587-yard, championship 18-hole golf course with returning nines and related practice and golf club facilities, a 23,460 square foot Golf Clubhouse, golf cart storage barn (6,050 square feet), a greens keeper building (2,010 square feet), men's and women's restroom facilities (630 square feet), a 180-square foot snack bar, and 140-square foot starter shack. The Golf Clubhouse parking lot is located directly off East Coast Highway and includes 420 surface parking spaces. Exhibit 1 illustrates the existing improvements.

Proposed Improvements

- The demolition of the existing Tennis Clubhouse and Golf Clubhouse;
- The construction of new Tennis Clubhouse and Golf Clubhouse;
- The construction of The Bungalows (a small boutique hotel consisting of twenty-seven short-term visitor-serving units, a spa/fitness area, and concierge and guest meeting facilities)[1]; and
- The construction of The Villas (five single-family residential dwelling units).

Table 1 provides a summary of the proposed project.

[1]All references to the "Bungalows" mean the small boutique hotel consisting of twenty-seven short-term visitor-serving rental units, a spa/fitness area, and concierge and guest meeting facilities.

Exhibit 1

EXISTING USES AERIAL MAP

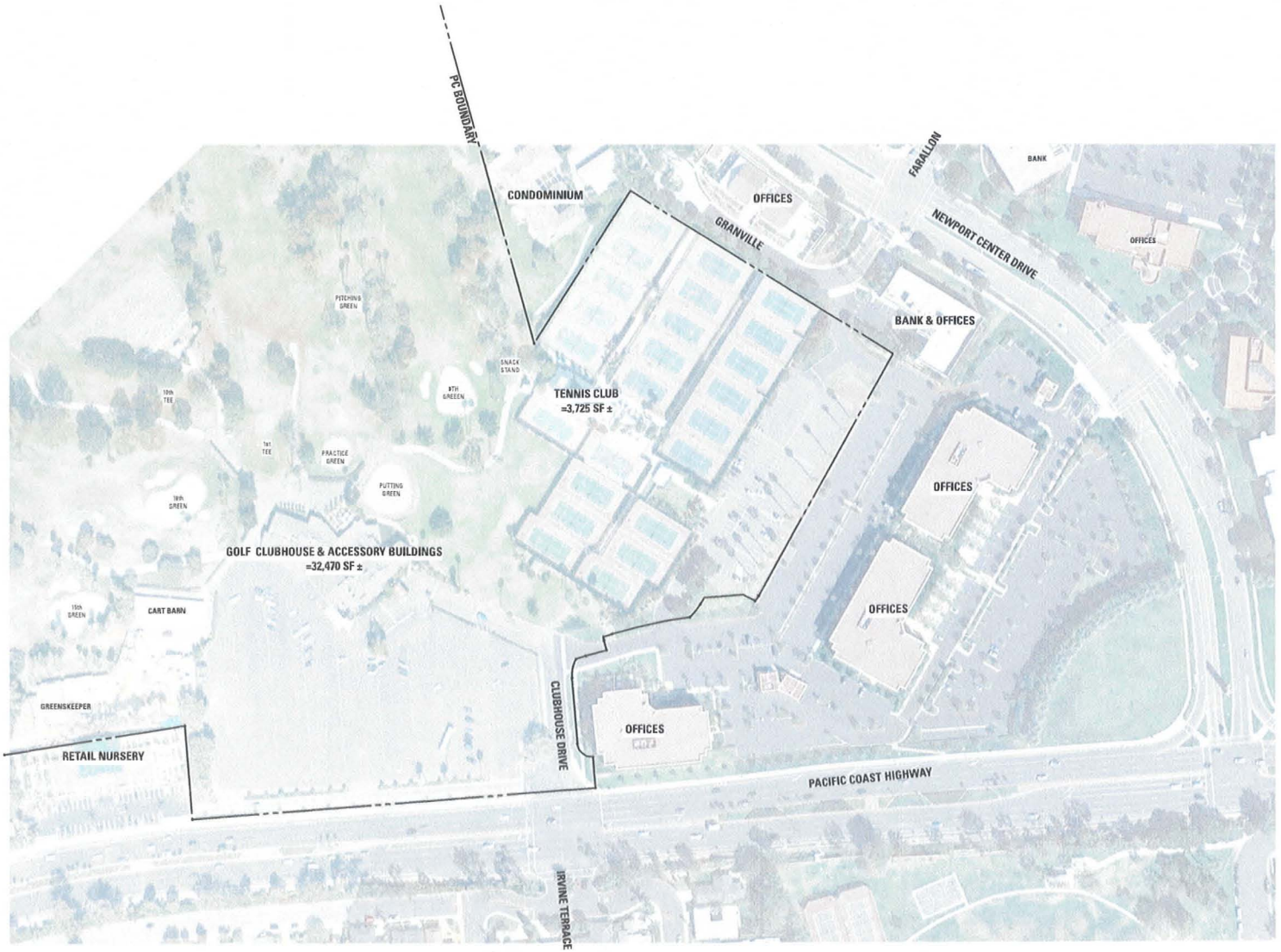


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EXHIBIT **7**
1 OF 1

Table 1

Summary of Proposed Uses
The Golf Club and The Tennis Club

Existing Project		Proposed Project	
Golf Clubhouse			
Component	**Floor Area (sq. ft.)**	**Component**	**Floor Area (sq. ft.)**
1st Floor Clubhouse	20,702	1st Floor Clubhouse	18,069
2nd Floor Clubhouse	2,758	2nd Floor	16,931
Total	**23,460**	**Total**	**35,000**
Cart Barn	6,050	Cart Storage	5,834[1]
Snack Bar	180	Snack Bar	180[1]
Restroom Facilities	630	Restroom Facilities	630[1]
Greens Keeper	2,010	Greens Keeper	2,010[1]
Starter Shack	140	Starter Shack	140[1]
Total	**32,470**	**Total**	**43,794**
Tennis Clubhouse & Courts			
Component	**Floor Area (sq. ft.)**	**Component**	**Floor Area (sq. ft.)**
1st Floor Clubhouse	3,725	1st Floor Clubhouse	3,725
24 Courts		7 Courts	
Total	**3,725**	**Total**	**3,725**
Bungalows			
Component	**Floor Area (sq. ft.)**	**Component**	**Floor Area (sq. ft.)**
		13 Golf Bungalows	N/A
		14 Tennis Bungalows	N/A
		Spa	7,490[2]
		Concierge & Guest Meeting Facility	2,170[2]
		Total	**9,666[2]**
Villas			
Component	**Floor Area (sq. ft.)**	**Component**	**Floor Area (sq. ft.)**
		5 SFR	N/A
		Total	**N/A**
Building Heights			
Component	**Height (ft.)**	**Component**	**Height (ft.)**
Golf Clubhouse	23'-9"	Golf Clubhouse	50
Tennis Clubhouse		Tennis Clubhouse	30
		Villas	35
		Bungalows	31
Cart Barn	12'-0"		
Greens Keeper	18'-0"	Greens Keeper	18'-0

[1]Exempt from General Plan Development Limit – Ancillary to Golf Course
[2]Exempt from General Plan Development Limit – Ancillary to Hotel use

Each of the project components proposed for the Property is illustrated on Exhibit 2 and described below.

- Tennis Clubhouse and Center Court

The Tennis Club portion of the project proposes seven tennis courts, six of which are existing, plus a new stadium center court and construction of a new Tennis Clubhouse (3,725 square feet). The existing Tennis Clubhouse is approximately 3,725 square feet with 24 tennis courts. Thirty-eight (38) parking spaces are provided for the Tennis Clubhouse.

- The Bungalows

As noted above, the proposed Bungalows consist of a small boutique hotel comprised of twenty-seven (27) short-term visitor-serving units, a Concierge & Guest Meeting Facility, and The Bungalow Spa. A total of 50 parking spaces is proposed for the Bungalows.

- The Villas

Five (5) single-family residential dwelling units will be constructed adjacent to the Tennis Club and 9th green of the golf course. These dwelling units will range in size from 2,201 square feet (Plan A) to 5,297 square feet (Plan D). Twenty (20) parking spaces are proposed to accommodate The Villas.

- Golf Club Parking Lot and Private Hand Car Wash

The Golf Club Parking Lot and Entry will be redesigned to provide 300 on-site parking spaces. In addition, an existing offsite Parking Agreement will continue to provide 554 parking spaces to supplement the onsite Golf Club parking. The access easement that exists along the frontage of PCH will be eliminated. In addition, a private hand car wash is also proposed within the parking lot in the vicinity of Country Club Drive (refer to Exhibit 3). The area identified to accommodate this project feature encompasses approximately 240 square feet (i.e., 12 feet wide and 20 feet long). Use of the private hand car wash is limited to tennis and golf club members only.

- Golf Clubhouse

The existing Golf Clubhouse will be demolished and a new Golf Clubhouse encompassing 40,834 square feet, including banquet/event facilities that can accommodate dining and special events (e.g., weddings, banquets, etc.), will be constructed in its place. This clubhouse will include both men's and women's locker rooms.

Exhibit 2

MASTER PLAN

- THE TENNIS CLUB
  - 1 new stadium court
  - Tennis Clubhouse
- THE VILLAS
  - 5 single family homes
- THE BUNGALOWS
  - 27 guest rental units
- THE GOLF CLUB

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EXHIBIT 1

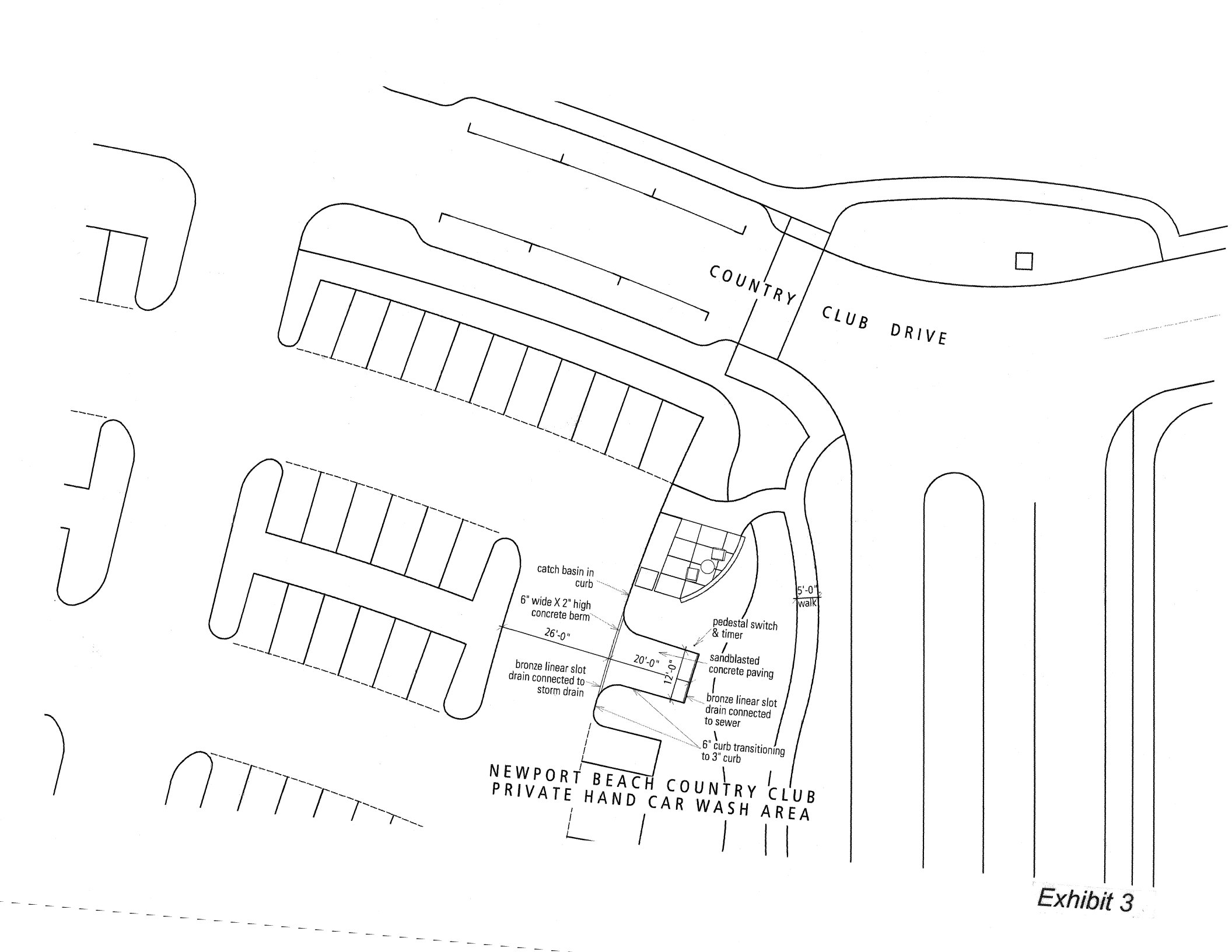
COUNTRY CLUB DRIVE
catch basin in curb
6" wide X 2" high concrete berm
26'-0"
bronze linear slot drain connected to storm drain
20'-0"
12'-0"
pedestal switch & timer
sandblasted concrete paving
bronze linear slot drain connected to sewer
6" curb transitioning to 3" curb
5'-0" walk
NEWPORT BEACH COUNTRY CLUB
PRIVATE HAND CAR WASH AREA

Exhibit 3

Project Phasing – Tennis Club

The Tennis Club component of the proposed project will be implemented in four (4) construction and demolition phases that are anticipated to occur over a period of approximately 38 months. The demolition and construction activities of the Tennis Club component of the proposed project are identified and described in Table 2.

Table 2

Tennis Club Development Phasing

Phase	Description	Duration (Months)
1	Construct Temporary Modular Clubhouse[1]	1
	Demolition	1
2	Construct The Villas (3), Private Street, New Tennis Clubhouse and Parking Lots	14
	Demolition	1
3	Construct Center Court and Bungalow Pool	3
	Demolition	1
4	Construct Golf and Tennis Bungalows and Remaining Villas	15
	Total Schedule	**36**

[1]Anticipated Start date is September 2011.

SOURCE: The Templeton Planning Group (July 2010)

The phasing plans for the Tennis club are related facilities are illustrated in Exhibit 4 through 10.

Exhibit 4

TENNIS CLUB

PHASE I - CONSTRUCTION

- Temporary Modular Tennis Clubhouse (48'x60')

LEGEND

- new building
- new sitework
- existing structures (on property)

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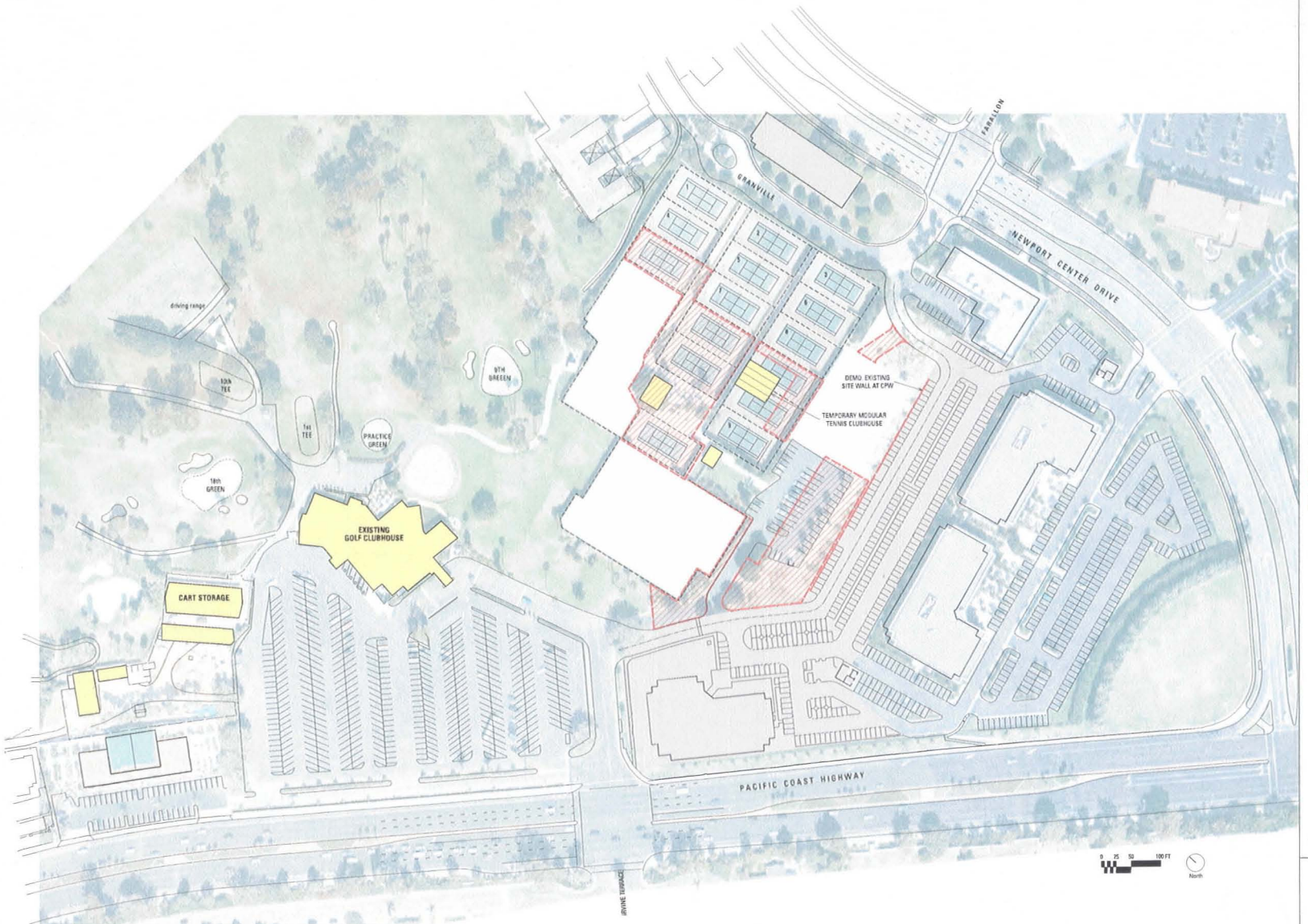
Exhibit 5



TENNIS CLUB

PHASE I - DEMOLITION

- Tennis Club buildings
- 6 tennis courts
- Portion of Tennis Club parking lot

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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Exhibit 6

TENNIS CLUB

PHASE II - CONSTRUCTION

- The Villas
  -3 single family homes
- private street from County Club Drive to The Villas
- new Tennis Clubhouse & parking lots

LEGEND

- new building
- new sitework
- existing structures (on property)

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Exhibit 7

TENNIS CLUB

PHASE II - DEMOLITION

- 1 tennis court
- Remaining portion of previous Tennis Club parking lot
- Temporary modular Tennis Clubhouse

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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Exhibit 8

TENNIS CLUB

PHASE III - CONSTRUCTION

- Center Court
- Bungalow Pool

LEGEND

- new building
- new sitework
- existing structures (on property)

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Exhibit 9

TENNIS CLUBANS

PHASE III - DEMOLITION

- 3 tennis courts

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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Exhibit 10

TENNIS CLUB

PHASE IV - CONSTRUCTION

- new Golf Bungalows
  - 13 botique hotel units
- new Tennis Bungalows
  - 14 botique hotel units
- The Villas
  - 2 single family homes
- Court 7

LEGEND

- new building
- new sitework
- existing structures (on property)

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Project Phasing – Golf Clubhouse

The Golf Clubhouse component of the proposed project will be implemented in four (4) discrete development phases. Although a definitive schedule has not been developed, demolition and construction of this component are anticipated to occur over a period of approximately 34 months, as described in Table 3.

Table 3

Golf Clubhouse Development Phasing

Phase	Description	Duration (Months)
1	Demolition[1]	1
	Construct East Side Parking Lot and PCH Entry[2]	4
2	Demolition	1
	Construct West Side Parking Lot and Temporary Golf Club	6
3	Demolition	2
	Construct New Golf Clubhouse	14
4	Demolition	2
	Construct Greenskeeper Area and Golf Porte Cache and Parking	4
	Total Schedule	**34**

[1]Start date to determined.
[2]Includes car wash.

SOURCE: The Templeton Planning Group (July 2010)

The phasing plans for the Golf club are related facilities are illustrated in Exhibit 11 through 18.

Exhibit 11

GOLF CLUB

PHASE I - DEMOLITION

- East side of existing Golf Clubhouse parking lot
- Entry drive from PCH

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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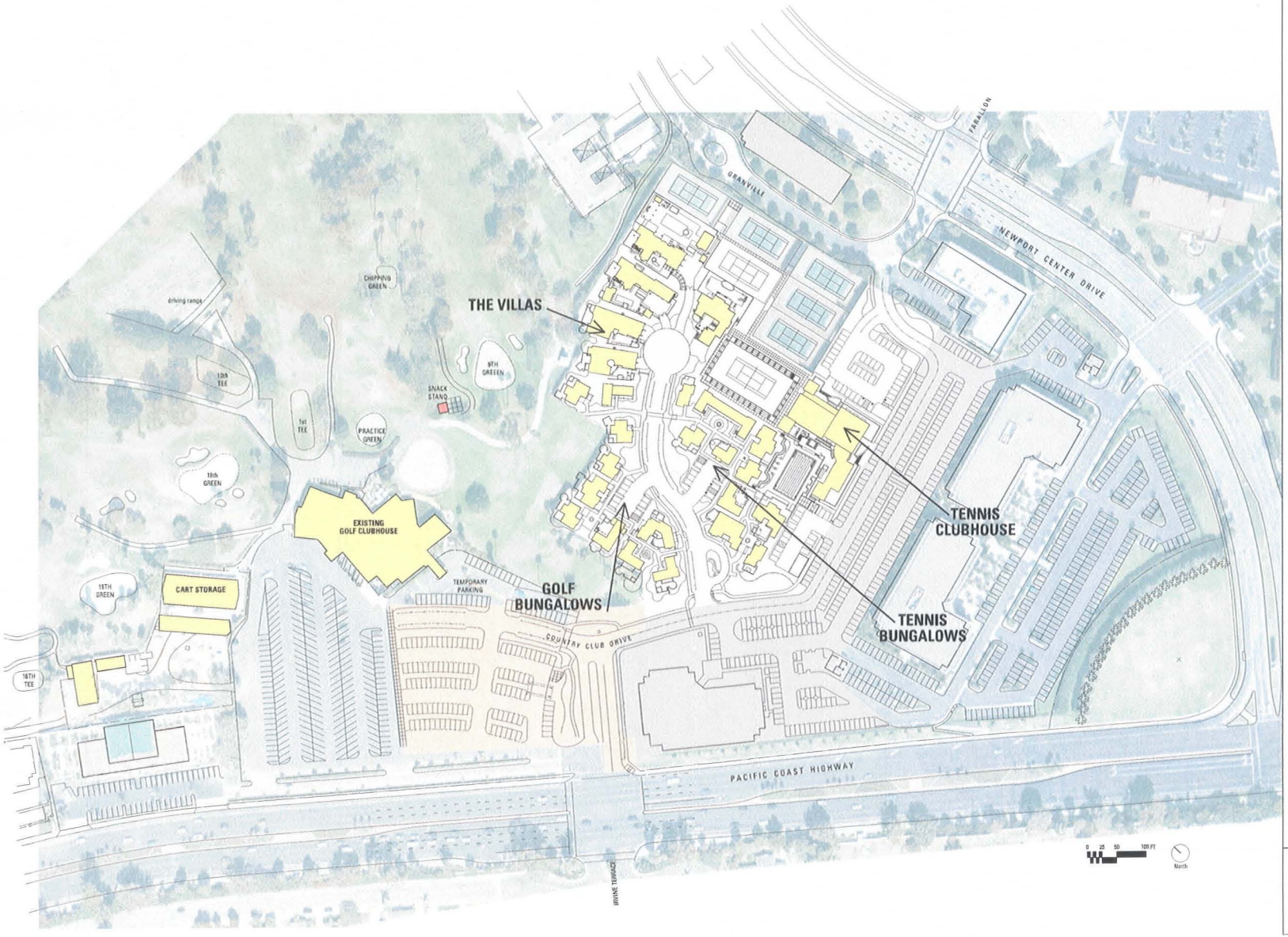
Exhibit 12

GOLF CLUB

PHASE I - CONSTRUCTION

- East side of Golf Clubhouse parking lot, restripe parking area at porte cochere
- Entry drive from PCH



LEGEND

- new building
- new sitework
- existing structures (on property)

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Exhibit 13

GOLF CLUB PLANS

PHASE II - DEMOLITION

- West side of Golf Clubhouse parking lot

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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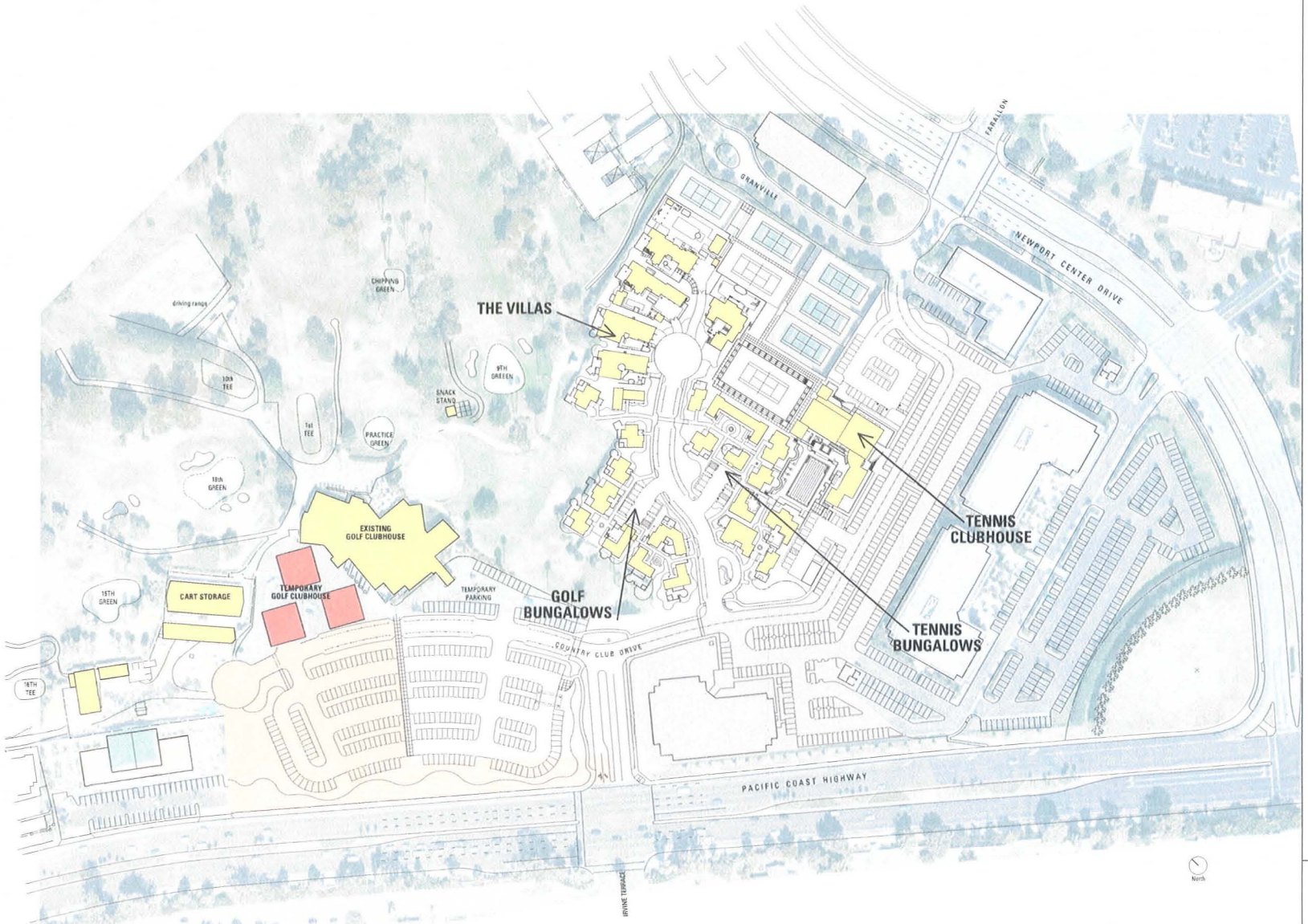
Exhibit 14

GOLF CLUB

PHASE II - CONSTRUCTION

- West side of Golf Club parking lot
- Temporary Golf Clubhouse



LEGEND

- new building
- new sitework
- existing structures (on property)

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Exhibit 15

GOLF CLUB

PHASE III - DEMOLITION

- Golf Clubhouse

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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Exhibit 16

GOLF CLUB

PHASE III - CONSTRUCTION

- Golf Clubhouse

LEGEND

- new building
- new sitework
- existing structures (on property)

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Exhibit 17

GOLF CLUB

PHASE IV - DEMOLITION

- Portion of Greenskeeper Area
- Temporary modular Golf Clubhouse
- Northern portion of Golf Clubhouse parking lot

LEGEND

- Existing area to be demolished
- Existing structures (on property)

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Exhibit 18

GOLF CLUB

PHASE IV - CONSTRUCTION

- Portion of Greenskeeper Area
- golf porte cochere & parking

LEGEND

- new building
- new sitework
- existing structures (on property)

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Discretionary Approvals

Implementation of the proposed project will require approval of the following discretionary approvals by the City of Newport Beach:

- Planned Community Text Adoption
- Transfer of Development Rights
- Approval-in-Concept for Coastal Development Permit
- Vesting Tentative Tract Map (Tennis Component)
- Development Agreement
- Temporary Use Permit

10. Surrounding Land Uses and Setting:

East Coast Highway abuts the site along a portion of the southern property boundary. In addition, the Armstrong Garden Center and residential homes are also located along the southern property boundary. Residential development west of Granville Drive and office buildings are located east and southeast of the site, respectively. The Marriott Hotel is also located east of the golf course. Jamboree Road and residential development are located along the western property limits. The Newport Beach Chamber of Commerce, Santa Barbara Drive, residential development and the Newport Beach Fire Department are located to the north.

LOCATION	GENERAL PLAN	ZONING	CURRENT USE
ON-SITE	PR and MU-H3	PC-47	NB Country Club, including golf course, clubhouse and tennis facilities
NORTH	PF, OS and RM	APF, GEIF	Newport Beach Chamber of Commerce, Jamboree Road, Santa Barbara Drive, residential development and Newport Beach Fire Department
SOUTH	RS-D and PR	PC-30, R-1	Armstrong Garden Center, residential, office development and East Coast Highway
EAST	CO-G, RM, CV, CO-R	PC-40, RMD, APF, PC-54	Marriott Hotel, office development, and residential development
WEST	OS, PF, CV, and RM	PC-21, PC-41	Residential development and Jamboree Road

11. Other public agencies whose approval is required:

California Coastal Commission (CDP)
California Regional Water Quality Control Board (Section 401 Permit)

VICINITY MAP


GENERAL PLAN
ROW
RS-D
OS
53
51
CV
52
132 DU
PR
74
120 DU
RM
228 DU
49
PI
48
SAN CLEMENTE DR
245 DU
40
MU-H3
41
42
43
44
CR
35
36
46
MU-H3/
CO-G
45
34
CO-R
SANTA BARBARA DR
SANTA CRUZ DR
JAMBOREE RD
SEA COVE LN
OCEAN VISTA
BACK BAY DR
VILLA POINT DR
BONNIE DOONE TER
DOLPHIN TER
SANTANELLA TER
SERENADE TER
BAYSIDE DR
MARINE AVE
COAST HWY E
GRANVILLE DR
NEWPORT CENTER DR
ANACAPA DR
FARALLON DR
RT
0
618ft


ZONING
PC-41
PC-48
OS-A
PC-21
RSC
PC-54
PC-19
SAN CLEMENTE DR
SANTA BARBARA DR
APF
SANTA CRUZ DR
PC-23
JAMBOREE RD
SEA COVE LN
OCEAN VISTA
PC-47
PC-39
BACK BAY DR
PC-30
MFR(69d.u.)
ROW
PC-56
VILLA POINT DR
BONNIE DOONE TER
GRANVILLE DR
ANACAPA DR
NEWPORT CENTER DR
FARALLON DR
DOLPHIN TER
RMC
COAST HWY E
SANTANELLA TER
SERENADE TER
BAYSIDE DR
MARINE AVE
PC-40
PC-17
R-1
R-1.5
0
618ft

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

DETERMINATION

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 ENVIRONMENTAL IMPACT REPORT is required. ☐

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

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 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, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Submitted by: Rosalinh Ung, Associate Planner — Date: 9/16/10
Planning Department

Prepared by: Keeton K. Kreitzer, Consultant — Date: 9.16.10
Keeton Kreitzer Consulting

CITY OF NEWPORT BEACH
ENVIRONMENTAL CHECKLIST

		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 agricultural use, or cause the 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 impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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 of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑
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?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☑
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)?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☑	☐
k)	Result in significant alteration of receiving water quality during or following construction?	☐	☐	☑	☐
l)	Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?	☐	☐	☑	☐
m)	Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?	☐	☐	☑	☐
n)	Create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?	☐	☐	☑	☐
o)	Create significant increases in erosion of the project site or surrounding areas?	☐	☐	☑	☐
X. LAND USE AND PLANNING. Would the proposal:					
a)	Physically divide an established community?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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 ground borne vibration or ground borne 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 or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
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)?	☐	☐	☑	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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? Opportunities?	☐	☐	☐	☑
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 intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☑	☐	☐

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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 supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☑	☐
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?	☐	☐	☑	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☑	☐	☐

XIX. ENVIRONMENTAL ANALYSIS

This section of the Initial Study evaluates the potential environmental impacts of the proposed project and provides explanations of the responses to the Environmental Checklist. The environmental analysis in this section is patterned after the questions in the Environmental Checklist. Under each issue area, a general discussion of the existing conditions is provided according to the environmental analysis of the proposed Project's impacts. To each question, there are four possible responses:

- **No Impact.** The proposed project will not have any measurable environmental impact on the environment.
- **Less Than Significant Impact.** The proposed project will have the potential for impacting the environment, although this impact will be below thresholds that may be considered significant.
- **Less Than Significant With Mitigation Incorporated.** The proposed project will have potentially significant adverse impacts which may exceed established thresholds; however, mitigation measures or changes to the proposed project's physical or operational characteristics will reduce these impacts to levels that are less than significant. Those mitigation measures are specified in the following sections. Each recommended mitigation measure has been agreed to by the applicant.
- **Potentially Significant Impact.** The proposed project will have impacts that are considered potentially significant and additional analysis is required to identify mitigation measures that could reduce these impacts to insignificant levels. When an impact is determined to be potentially significant in the preliminary analysis, the environmental issue will be subject to detailed analysis in an environmental impact report (EIR).

I. AESTHETICS

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

Less than Significant Impact. The proposed project encompasses approximately 145 acres adjacent to Fashion Island and is located north of Coast Highway. Newport Center Drive from Newport Center Drive east/west to Farallon Drive is designated as a Coastal View Road. Although Coast Highway is not designated as a Coastal View Road between Jamboree Road and MacArthur Boulevard, a Public View Point is located within Irvine Terrace Park, which is located south of that arterial and the subject property in the Corona del Mar service area. Policies NR 20.2 and 20.3 in the Natural Resources Element of the Newport Beach General Plan are intended to protect and enhance public view corridors. Specifically, new development must restore and enhance the visual quality and protect and restore public views. Similar policies in the Coastal Land Use Plan (CLUP) are also intended to ensure that coastal views and development within the coastal zone are protected and enhanced (refer to the analysis presented in Section X.b).

To that end, the proposed Planned Community District (PCD) Regulations include development standards to ". . . ensure harmony and continuity of the design parameters that are respectful of the properties of its California coastal heritage." Guidelines have been included in the PCD regulations that address building mass, scale, materials, landscape treatment, and community design to ensure compatibility. Although the PCD regulations limit the maximum building height of a structure to 50 feet, building heights for the proposed structures will range from 30 feet for The Bungalows, to 32 feet for the Villas and the Tennis Clubhouse, to 50 feet for the Golf Clubhouse, which will be the largest structure within the PCD. In addition, landscaping will be provided in all areas not devoted to structures, parking and driveways, which consists of a combination of trees, shrubs, groundcover and hardscape improvements. In addition, the Master Plan (refer to Exhibit 2) and the Preliminary Landscape Plan (Exhibit 19) in the PCD Plan show a variable width landscape berm screening the golf club parking lot along approximately 650 linear feet of East Coast Highway. The width varies from 20 feet to approximately 60 feet. In addition, there is significant landscaping between each row of parking to further soften the appearance of the golf club parking lot has also been provided. Landscape materials, including trees, shrubs and groundcover are also proposed around the site perimeter to soften the development edges between adjacent existing residential and commercial development. The preliminary landscape plan includes a variety of accent/specimen trees (i.e., California oak, California pepper), spatial definition trees (e.g., California sycamore, thornless citrus, lemon-scented gum, etc.) and background trees (i.e., Aleppo pine, Brisbane box) along with other species of olive and palm trees to enhance the aesthetic character of the site and to complement the existing development in the project environs. The architectural style proposed for the project is classical California Mediterranean, which is consistent and compatible with the surrounding development.

The design and implementation of the proposed project will not result in a substantial visual impact. Although the proposed clubhouse will be approximately 11,500 square feet larger than the existing structure, it is designed to be compatible with the nearby development. In addition, the proposed villas are designed to be compatible with the character of the residential development to the north along Granville. Views from the Public View Point in Irvine Terrace Park are primarily oriented to the south to the harbor and ocean; however, with the integration of the landscaping and setbacks along Coast Highway, views from the vantage and inland into Fashion Island the adjacent areas would not be adversely affected. Significant visual impacts from the segment of Newport Center Drive designated as a Coastal View Road would not occur because adequate landscape materials, setbacks, and building heights have been integrated into the project design to enhance and protect views as intended by the applicable Recreation Element policies. In addition, mechanical and trash enclosures as well as pool/spa equipment, tennis courts, and ground mounted air conditioning compressor units will be screened by walls and/or landscaping. Therefore, no significant impacts are anticipated and no mitigation measures are required.

Exhibit 19

PRELIMINARY LANDSCAPE PLAN

BOTANICAL NAME	COMMON NAME
ACCENT/ SPECIMEN TREES (48' BOX MINIMUM SIZE)	
QUERCUS AGRIFOLIA	CALIFORNIA OAK
SCHINUS MOLLE MULTI	CALIFORNIA PEPPER
SPATIAL DEFINITION TREES (24' BOX MINIMUM SIZE)	
CITRUS SPECIES	THORNLESS CITRUS
EUCALYPTUS CITIODORA	LEMON-SCENTED GUM
PLANTANUS RACEMOSA	CALIFORNIA SYCAMORE
POPULUS ITALICA	LOMBARDY POPLAR
BACKGROUND TREES (24' BOX MINIMUM SIZE)	
PINUS HALEPENSIS	ALEPPO PINE
TRISTANIA CONFERTA	BRISBANE BOX
CLUBHOUSE PARKING LOT TREE:	
OLEA EUROPAEA	OLIVE (FIELD GROWN)
PALM:	
WASHINGTONIA ROBUSTA	MEXICAN FAN PALM-SKINNED HT. VARIES 12-25' B.T.
ACCENT PALM:	
PHOENIX CANARIENSIS	CANARY ISLAND DATE PALM PINEAPPLE CUT-HEIGHTS VARY
EXISTING TREES TO REMAIN	
LARGE SHRUBS (5 GALLON MINIMUM SIZE)	
CEANOTHUS SPECIES	CEANOTHUS
LAURUS NOBILIS 'SARATOGA'	BAY LAUREL
LEPTOSPERMUM LAEVIGATUM	AUSTRALIAN TEA TREE
ROMNEYA COULTERI	MATILIJA POPPY
STRELITZIA NICHOLAI	GIANT BIRD OF PARADISE
MEDIUM SHRUBS (5 GALLON MINIMUM SIZE)	
DIETES BICOLOR	BUTTERFLY IRIS
GOLDENERA PULCHRUM	PINK DIOSMA
ESCALLONIA SPECIES	ESCALLONIA
GREVILLIA SPECIES	GREVILLIA
HEMEROCALLIS HYBRIDS	EVERGREEN DAYLILIES
HESPERALOE PARVIFLORA	HESPERALOE
PHORMIUM 'YAKONI QUEEN'	FLAX
PITTOSPORUM SPECIES	MOCK ORANGE
RAPHIOLEPIS INDICA	INDIA HAWTHORN
STRELITZIA REGINAE	BIRD OF PARADISE
TRACHELOSPERMUM JASMINOIDES	STAR JASMINE
WESTRINGIA ROSMARINIFORMIS	COAST ROSEMARY
ACCENT/COLOR SHRUBS (5 GALLON MINIMUM SIZE)	
ALOE SPECIES	ALOE
AGAVE AMERICANA	MEXICAN AGAVE
AGAVE ATTENUATA	AGAVE
CYCAS REVOLUTA	SAGO PALM-MULTI
DASYLIRION WHEELERII	DESERT SPOON
EUPHORBIA SPECIES	EUPHORBIA
HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS
KNIPHOFIA UVARIA	RED-HOT POKER
MUHLENBERGIA CAPILLARIS	RED DEER GRASS
YUCCA SPECIES	YUCCA
SMALL SHRUBS (5 GALLON MINIMUM SIZE)	
AGAPANTHUS 'STORM CLOUD'	LILY OF THE NILE
LANTANA MONTEVIDENSIS	LANTANA
LIMONIUM PEREZII	SEA LAVENDER
ROSMARINUS 'PROSTRATE'	PROSTRATE ROSEMARY
STACHYS BYZANTINA	LAMBS EARS
VINES (5 GALLON MINIMUM SIZE)	
BOUGAINVILLEA SPECIES	BOUGAINVILLEA
DISTICTUS BUCCINATORIA	SCARLET TRUMPET VINE
DISTICTUS RIVERSII	ROYAL TRUMPET VINE
PARTHENOCISSUS QUINQUEFOLIA	VIRGINIA CREEPER

NOTE:
INSTALL MEXICAN BEACH COBBLE - 3" TO 5" IN A 1:1:1 RATIO OF BLACK, ROJA AND LA PLAYA IN ACCENT PLANTING AREAS, AND AROUND SELECTED SPECIMEN TREES.

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EXHIBIT
3
1 OF 1

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings with a state scenic highway?

Less than Significant Impact. The subject property is currently developed with private golf and tennis facilities. As a result, the site has been substantially altered in order to accommodate the existing land uses. The site is generally devoid of significant natural features such as rock outcroppings and/or native or important habitat. The existing trees and vegetation that are located on the site are introduced landscape species; no historic buildings exist on the site and the site is not located adjacent to a state scenic highway. Therefore, project implementation will not adversely affect existing scenic resources. No significant impacts are anticipated and no mitigation measures are required.

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

Less than Significant Impact. Project implementation includes the demolition of several existing structures (e.g., Golf Clubhouse and ancillary facilities, Tennis Clubhouse, etc.) and features (e.g., tennis courts) and the construction of a new Golf Club clubhouse and related facilities for the Golf Club component. In addition, a new Tennis Club, The Bungalows and single-family residential uses (i.e., The Villas) are also proposed. As indicated previously, the subject property is not designated as an important visual resource. Nonetheless, the PCD regulations prescribed development standards that address building height, setbacks, landscaping, lighting, architectural character and other elements to ensure that the aesthetic character of the site and surrounding area are not adversely affected. The maximum building height of the Golf Clubhouse is 53.5 feet from the existing grade to the roof peak. The proposed Tennis Clubhouse would have a maximum height of 30 feet above the existing grade. The maximum building height of the bungalows is 31 feet, with minimum five feet setbacks. The Villas would not exceed 35 feet (Villa D), as prescribed in the PCD regulations. The two land uses have been designed within the property to be visually and aesthetically compatible with each other. In order to address the aesthetic character of the site along East Coast Highway, the proposed Golf Clubhouse component has been designed with a variable landscape setback that will act as buffer along 650 linear feet of East Coast Highway. Although East Coast Highway is not designated as a scenic corridor by the City, the wide, variable landscape setback will enhance the character of that arterial and provide a significantly wider buffer for the residents of Irvine Terrace. The setback will vary from 20 feet to 55 feet and will be landscaped with a ground cover and a variety of shrubs and trees that complement the proposed development. The Villas will be screened from the tennis courts with a five-foot block wall plastered to match the adjacent Villa or by a 10-foot chain link fence covered by a windscreen. No significant impacts are anticipated and no mitigation measures are required.

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

Less than Significant Impact. The existing development is characterized by lighting that illuminates the surface parking lot that serves the existing golf and tennis facilities. In addition, lighting is also associated with existing tennis courts and security lighting for the parking lot and structures. Project implementation will result in the elimination of 17 lighted tennis courts and the intensification of development on the site through the construction of the Tennis Clubhouse, new tennis facilities, the Bungalows and the Villas. Lighting will also be provided for the same purpose as currently exists (i.e., security and parking lot illumination). Lighting required to illuminate the proposed parking lots for the Golf Clubhouse and Tennis Club facilities will comply with standards established by the Newport Beach Municipal Code. Proposed lighting will not spill onto adjacent properties. The single-family residential dwelling units will be screened from the tennis courts with a minimum 5-foot block wall or by a 10-foot windscreen chain link fence. One of the proposed single-family residential dwelling units is proposed to be located near the one of the existing tennis courts; however, a swimming pool is proposed between the tennis court and the residence to minimize the potential nuisance posed by the tennis court lighting. In addition, some of the Bungalows will also be located in close proximity to the proposed tennis courts. Although it is anticipated that the lighting will be energy efficient and will also be shielded or recessed so that direct glare and reflections are contained within the boundaries of the property, the applicant will be required to prepare a final lighting/photometric plan to ensure that lighting on site meets the City's requirements. In addition, tennis

court lights will be turned off at 10:00 p.m. Therefore, no significant impacts are anticipated and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required. However, the project shall incorporate the following standard condition prescribed by the City of Newport Beach for lighting.

SC-1 Prior to the issuance of building permits, the applicant shall prepare a photometric study in conjunction with a final lighting plan for approval by the Planning Department. The site shall not be excessively illuminated based on the luminance recommendations of the Illuminating Engineering Society of North America, or, if in the opinion of the Planning Director, the illumination creates an unacceptable negative impact on surrounding land uses or environmental resources. The Planning Director may order the dimming of light sources or other remediation upon finding that the site is excessively illuminated.

II. AGRICULTURE AND FOREST 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?

No Impact. No Prime Farmland, Farmland of State or Local Importance, or Unique Farmland occurs within or in the vicinity of the site. The site and adjacent areas are designated as "Urban and Built-up Land" and "Other Land" on the Orange County Important Farmland Map. Further, neither the site nor the adjacent areas are designated as prime, unique or important farmlands by the State Resources Agency or by the Newport Beach General Plan. Therefore, no impact on significant farmlands would occur with the proposed project and no mitigation measures are required.

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

No Impact. The Newport Beach General Plan, Land Use Element designates the site as "Parks and Recreation" (PR) and "Mixed Use – Horizontal" (MU-H3) and the zone designation for the site is "Planned Community." Therefore, there is no conflict with zoning for agricultural use, and the property and surrounding properties are not under a Williamson Act contract. No significant impacts are anticipated and no mitigation measures are required.

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))?

No Impact. The project site is neither zoned nor designated as forest land. The site is currently developed as a golf course and tennis club. Project implementation would not result in the conversion of any forest land subject to the Public Resources Code. No significant impacts are anticipated and no mitigation measures are required.

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

No Impact. As indicated above, the site is currently developed and is devoid of forest resources. Project implementation will not result in the site's conversion of forest land to non-forest uses.

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?

No Impact. The site is not being used for either agricultural or forest land purposes and, as indicated previously, is not designated as agricultural or forest land. The subject property and the area surrounding the site are developed with a variety of residential, professional office, retail, public facilities, and recreational uses. Therefore, no agricultural or forest uses on the site or within the site's vicinity would be converted to non-agricultural or non-forest use. No significant impacts are anticipated and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

III. AIR QUALITY

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

Less than Significant Impact. The 2007 Air Quality Management Plan (AQMP) was adopted in June 2007, after extensive public review. The 2007 AQMP recognizes the interaction between photochemical processes that create both ozone (O_3) and the smallest airborne particulates ($PM_{2.5}$). The 2007 AQMP is therefore a coordinated plan for both pollutants. Key emissions reductions strategies in the updated air quality plan include:

- Ultra-low emissions standards for both new and existing sources (including on-and-off-road heavy trucks, industrial and service equipment, locomotives, ships and aircraft).
- Accelerated fleet turnover to achieve benefits of cleaner engines.
- Reformulation of consumer products.
- Modernization and technology advancements from stationary sources (refineries, power plants, etc.)

Development such as the proposed Newport Beach Country Club project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing "general" development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of master planned growth is determined. If a given project incorporates any available transportation control measures that can be implemented on a project-specific basis, and if the scope and phasing of a project are consistent with adopted forecasts as shown in the Regional Comprehensive Plan (RCP), then the regional air quality impact of project growth would not be significant because of planning inconsistency. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis.

A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the Air Quality Management Plan (AQMP). It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals contained in the AQMP. To accurately assess the environmental impacts of new or renovated development, environmental pollution and population growth are projected for future scenarios. There are two key indicators of consistency:

Indicator 1 Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the AAQS or interim emission reductions in the AQMP.

The South Coast Air Basin (SCAB) is designated by the state and USEPA as non-attainment for O_3, PM_{10}, and $PM_{2.5}$. SCAQMD developed regional emissions thresholds to determine whether or not a project would contribute to air pollutant violations. If a project exceeds the regional air pollutant thresholds, then the project would substantially contribute to air quality violations in the SCAB. In addition, the project would also contribute to air pollutant violations if localized emissions result in an exceedance of the AAQS. Neither short-term nor long-term emissions generated by the project exceed the SCAQMD thresholds for regional emissions (as shown in detail below) and would therefore contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP. Consequently, the project would not be consistent with the AQMP under the first indicator.

Indicator 2 Whether the project would exceed the assumptions in the AQMP. The AQMP strategy is, in part, based on projections from local general plans.

The current zoning designation permits development through a planned community development plan. Therefore, development of new land uses and their associated air pollutant emissions would be accounted for in the assumptions of the AQMP. Furthermore, the purpose and intent of a "Planned Community" is to encourage mixed-use development and integration of residential, recreational, commercial, and retail uses. Because the proposed project would accommodate a mix of recreational and residential uses within walking distance, there would be a limited reduction in vehicle trips for residents within the project site and surrounding area for commercial retail and recreational needs. This reduction in trips would likewise result in a reduction in air pollution. Consequently, implementation of the project would not conflict with the AQMP under the second indicator.

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

Less Than Significant Impact. The Project will be consistent with the relevant policies and requirements established by the Land Use Element. Approval of the proposed project would not result in any land use conflicts with existing, surrounding development. As indicated in III.c, below, neither construction nor operational air emissions would exceed significance thresholds established by the SCAQMD. These thresholds were developed to provide a method of assessing a project's individual impact significance, and also to determine whether the project's impacts could be cumulatively considerable. The proposed project would not, therefore, result in a cumulatively considerable net increase of any criteria pollutant. Since the South Coast Air Basin is in non-attainment with respect to ozone and PM_{10}, and the construction emissions would add to the regional burden of these pollutants, compliance with a vigorous set of air pollution control measures related to dust control, paint emissions etc.) is required to ensure that projects do not contribute directly to an air quality violation.

Air Pollution Control Measures

Dust Control Measures

- Apply soil stabilizers to inactive areas.
- Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces 3 times/day.
- Cover all stockpiles with tarps.
- Replace ground cover in disturbed areas as soon as feasible.

Exhaust Emission Measures

- Require 90-day low-NOx tune-ups for off-road equipment.
- Limit allowable idling to 5 minutes for trucks and heavy equipment.
- Utilize equipment whose engines are equipped with diesel oxidation catalysts if available.
- Utilize diesel particulate filter on heavy equipment where feasible.

Painting and Coating Measures

- Use low VOC coatings and high pressure-low volume

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)?

Less Than Significant Impact. Project implementation will result in the demolition of the existing Golf Clubhouse and the existing Tennis Clubhouse as well as related features, including asphalt parking lots, etc., in order to accommodate the proposed uses. Potential air quality impacts are discussed below.

Short-Term (Construction) Emissions

Construction activities will result in short-term pollutant emissions that are summarized in Table 1, below. With or without the use of mitigation, peak daily construction activity emissions will not exceed SCAQMD CEQA thresholds and will be further reduced by recommended mitigation. The recommended emissions mitigation measures are detailed in the "Mitigation" section of this report.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. Public exposure to heavy equipment emissions will be an extremely small fraction of the above dosage assumption. Diesel equipment is also becoming progressively "cleaner" in response to air quality rules on new off-road equipment. Any public health risk associated with project-related heavy equipment operations exhaust is therefore not quantifiable, but small.

Construction activity air quality impacts occur mainly in close proximity to the surface disturbance area. There may, however, be some "spill-over" into the surrounding community. That spill-over may be physical as vehicles drop or carry out dirt or silt is washed into public streets. Passing non-project vehicles then pulverize the dirt to create off-site dust impacts. "Spillover" may also occur via congestion effects. Construction may entail roadway encroachment, detours, lane closures and competition between construction vehicles (trucks and contractor employee commuting) and ambient traffic for available roadway capacity. Emissions controls require good housekeeping procedures and a construction traffic management plan that will maintain such "spill-over" effects at a less-than-significant level.

Table 1

Construction-Related Pollutant Emissions (pounds/day)
Newport Beach Country Club

Activity	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Demolition of Structure							
No Mitigation	2.2	18.4	9.4	0.0	2.2	1.1	1,895.0
Mitigation	2.2	15.9	9.4	0.0	1.4	0.4	1,895.0
Asphalt Demolition and Crushing/Reclamation							
No Mitigation	3.2	31.3	14.1	0.0	1.8	1.3	3,191.0
Mitigation	3.2	26.7	14.1	0.0	0.8	0.3	3,191.0
Mass Grading							
No Mitigation	9.0	88.7	41.3	0.0	11.0	5.1	9,004.8
Mitigation	9.0	79.3	41.3	0.0	2.3	1.6	9,004.8
Fine Grading							
No Mitigation	3.3	26.1	15.1	0.0	8.3	2.8	2,552.3
Mitigation	3.3	22.2	15.1	0.0	0.9	0.3	2,552.3
Trenching							
No Mitigation	3.8	30.5	17.7	0.0	1.6	1.5	3,095.5
Mitigation	3.8	25.9	17.7	0.0	0.3	0.2	3,095.5
Construction							
No Mitigation	2.7	19.0	13.1	0.0	1.4	1.2	2,070.0
Mitigation	2.7	16.2	13.1	0.0	0.2	0.2	2,070.0
Construction and Paining							
No Mitigation	11.6	17.7	12.9	0.0	1.3	1.2	2,087.4
Mitigation	10.7	15.1	12.9	0.0	0.2	0.2	2,087.4
SCAQMD Threshold	75	100	550	150	150	55	[1]
Exceeds Threshold?	No	No	No	No	No	No	--

[1]No significance threshold has been adopted.

SOURCE: Giroux & Associates (July 2009)

Local Significance Thresholds

The SCAQMD has also developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Local Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional because they were derived for economically or socially disadvantaged communities. For residential, hotel and recreational developments, the only source of LST impact would be during construction. LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the

most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

The URBEMIS model estimates that the daily construction disturbance "footprint" will be 0.7 acres. LST pollutant concentration data is currently published for 1, 2 and 5 acre sites. Utilizing data for a 1 acre site and a source receptor distance of 50 meters, the LST thresholds are presented in Table 2. As indicated in the table, project-related construction emissions would not exceed the relevant LSTs.

Table 2

Local Significance Thresholds (pounds/day)
Newport Beach Country Club

North Coastal Orange County	CO	NOx	PM10	PM2.5
LST Threshold	528	163	13	5
Proposed Project				
Unmitigated	9 – 41	18 – 89	1 – 11	1 – 3
Mitigated	9 – 41	16 – 79	1 – 2	1 – 2
SOURCE: Giroux & Associates (July 2009)				

Long-Term (Operational) Emissions

Possible project-related air quality concerns relate to the potential for impacts as a result of mobile source emissions that will be generated by the recreational, residential, and hotel uses proposed for the project site. The proposed project, however, replaces an existing facility and decreases existing tennis court facilities with the Bungalows and The Villas. With respect to operational emissions, it is anticipated that 389 fewer daily trips will be generated as a result of this project.

Operational emissions for existing and proposed project-related traffic were calculated using a computerized procedure developed by the California Air Resources Board (CARB) for urban growth mobile source emissions. The URBEMIS2007 model was run using the trip generation factors obtained from the traffic report for this project. The model was used to calculate area source emissions and the resulting vehicular operational emissions for existing uses in 2009 and proposed uses in 2012. A comparison was made of the two scenarios and the results are shown in Table 3.

The few residential uses associated with the proposed project may generate small quantities of organic compounds from cleaning products, personal care products, landscape maintenance, cooking, etc. Because the existing site has no residential use component, the area source emissions are slightly higher for the proposed project than for existing uses. As seen in Table 3, mobile source emissions in 2009 are higher for existing uses than for the proposed project for an assumed 2012 build-out.

Table 3

Project-Related Emissions Burden (pounds/day)
Newport Beach Country Club

	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Existing Uses (2009)							
Area Sources	0.3	0.0	3.1	0.0	0.0	0.0	5.6
Mobile Sources	11.5	15.4	149.5	0.2	24.3	4.7	14,288.0
Total	**11.8**	**15.4**	**152.6**	**0.2**	**24.3**	**4.7**	**14,293.6**
Proposed Project (2012)							
Area Sources	0.8	0.4	5.1	0.0	0.0	0.0	372.0
Mobile Sources	6.8	9.0	87.8	0.1	18.4	3.6	10,829.9
Total	**7.6**	**9.4**	**92.9**	**0.1**	**18.4**	**3.6**	**11,201.9**
Net Difference (Proposed versus Existing Uses)							
Area Sources	0.5	0.4	2.0	0.0	0.0	0.0	366.4
Mobile Sources	-4.7	-6.4	-61.7	-0.1	-5.9	-1.1	-3,458.1
Total	-4.2	-6.0	-59.7	-0.1	-5.9	-1.1	-3,091.7
SCAQMD Threshold	55	55	550	150	150	55	[1]
Exceeds Threshold?	No	No	No	No	No	No	--

[1]No significance threshold has been adopted.

SOURCE: Giroux & Associates (July 2009)

Because the proposed project generates fewer trips than existing uses and since area source emissions are minimal compared to mobile source emissions, the SCAQMD's recommended threshold levels will not be exceeded. Operational emissions will be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. The area in which the subject property is located is dominated by non-residential development, including professional office. Some residential development exists north of the existing tennis club and a senior housing development is located west of the proposed project site near Jamboree Road between Back Bay Road and Coast Highway; however, there are no hospitals, schools or other sensitive receptors located near the proposed project site. Moreover, as discussed in the preceding assessment of potential air quality impacts, the proposed project would not generate pollutant emissions that would exceed established SCAQMD thresholds, either during the temporary construction phases or over the long-term operating life of the proposed facilities and residences when occupied. Although no significant impacts are anticipated, several conditions are prescribed to further reduce dust and construction equipment exhaust emissions during the construction phase.

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

No Impact. A variety of odors would be associated with construction equipment exhaust emissions and application of paints and other architectural coatings. The odors would be minor and temporary in nature and would not significantly affect people residing or occupying areas beyond the immediate construction zones. Subsequent to the completion of construction activities, development of the site with the proposed Golf Club and Tennis Club, The Bungalows, and The Villas would not result in any significant change in the kinds of odors that could be experienced in the project environs, which is composed of single-family residential dwelling units similar to The Villas. Occasional, less than significant odors may occur in

conjunction with trash pick up and outdoor food preparation (e.g., barbeques), and possibly with outdoor maintenance activities. Trash containers would be equipped with lids and would be stored inside the dwelling units and garages. The proposed project will not generate unusual or large quantities of solid waste materials, or utilize chemicals, food products, or other materials that emit strong odors that would adversely affect the ambient air quality in the project environs. Therefore, the project does not have the potential to create objectionable odors; and no mitigation measures are required.

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Mitigation Measures

Although no significant short-term (i.e., construction) or long-term (operational) air quality impacts will occur as a result of the proposed project, the following measures are required by the South Coast AQMD to further reduce construction emissions:

SC-2 Adherence to SCAQMD Rule 402, which prohibits air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property to be emitted within the SoCAB.

SC-3 Adherence to SCAQMD Rule 403, which sets requirements for dust control associated with grading and construction activities.

SC-4 Adherence to SCAQMD Rules 431.1 and 431.2, which require the use of low sulfur fuel for stationary construction equipment.

SC-5 Adherence to SCAQMD Rule 1108, which sets limitations on ROG content in asphalt.

SC-6 Adherence to SCAQMD Rule 1113, which sets limitations on ROG content in architectural coatings.

SC-7 Adherence to Title 24 energy-efficient design requirements as well as the provision of window glazing, wall insulation, and efficient ventilation methods in accordance with the requirements of the California Building Code.

IV. 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?

No Impact. The subject property has been extensively altered as a result of site development. No important biological resources are identified in the Natural Resources Element of the Newport Beach General Plan (refer to Figure NR1) and no environmental study areas exist on the site (refer to Figure NR2) in that Element. As previously indicated, the majority of the site is developed with golf and tennis facilities, including parking lots. Virtually all of the vegetation existing within the limits of the site is introduced landscape species. Furthermore, the site is entirely surrounded by residential and commercial development as well as the Marriott Hotel and roadways. No sensitive habitat and/or sensitive plant or animal species exist on the subject property. The proposed project will result in the demolition of some existing structures, including the existing Golf and Tennis Clubhouses and several tennis courts in order to accommodate the proposed new development. Project implementation will not result in any modifications to sensitive habitat and/or sensitive species of plants or animals. Alteration of the site as proposed will not result in any potentially significant direct or indirect impacts to sensitive habitat and/or species. No significant impacts are anticipated and no mitigation measures are required.

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?

No Impact. With the exception of two man-made lakes that are part of the existing golf course, no riparian features exist within the limits of the site. The two lakes are not included within the development limits and, therefore, will not be directly affected by the proposed new development. Grading and site development proposed by the applicant will not result in any impacts to riparian habitat or other sensitive natural community identified either in the City's General Plan or Coastal Land Use Plan.

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?

No Impact. As indicated above, no riparian habitat exists on the subject property and no wetlands as defined by Section 404 of the Clean Water Act occur on the site. Project implementation will not result in any potential adverse affects to either wetlands or riparian species.

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 impede the use of native wildlife nursery sites?

No Impact. The subject property and the surrounding areas are developed and no migratory wildlife corridors occur on site or in the immediate vicinity of the project site that would be affected by development of the subject property. As a result, the proposed project will not interfere with resident, migratory or wildlife species. No significant impacts are anticipated and no mitigation measures are required.

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

No Impact. The site is devoid of protected habitat and/or species, including heritage trees. Project implementation will not result in any conflicts with adopted policies or ordinances intended to protect biological resources. No significant impacts are anticipated and no mitigation measures are required.

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?

No Impact. There are no local, regional or state habitat conservation plans that would regulate or guide development of the project site. The subject property, which has been developed as private recreation (i.e., Golf Club and Tennis Club) does not support native habitat and/or species and is not included in either a Habitat Conservation Plan or a Natural Community Conservation Plan. No significant direct or indirect impacts to an existing HCP and/or NCCP will occur as a result of project implementation; no mitigation measures are required.

Mitigation Measures

No significant impacts to biological resources are anticipated; no mitigation measures are required.

V. CULTURAL RESOURCES

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined §15604.5?

No Impact. The project site is currently developed with an 18-hole Golf Club, clubhouse and ancillary facilities, and a private tennis club with 24 tennis courts. Figure HR1 in the City's Historical Resources Element indicates that no historical resources are located on the site. Although no historic sites are located on the subject property, the California Point of Historical Interest (2009) of the Office of Historic Preservation, Department of Parks and Recreation, lists one property within a one-half mile radius of the subject property. ORA-009, the site of the 1953 National Boy Scout Jamboree (i.e., present location of Newport Center) is near the site. This site is also listed on the California Historic Resources Inventory. No historic resources and/or properties within one-half mile of the site are identified by the California Historical Landmarks (2009) of the Office of Historic Preservation, Department of Parks and Recreation, or the National Register of Historic Places. Implementation of the proposed project would not result in any direct or indirect impacts to the existing historic site (ORA-009). Furthermore, the site is not identified by the City as possessing potentially important historic resources. Therefore, project implementation will not result in potentially significant impacts to historic resources are anticipated and no mitigation measures are required.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15604.5?

Less than Significant Impact. Thirty-eight (38) studies have been conducted within a one-half mile radius of the subject property.[2] However, none of the studies occurred within the project site. In addition, 19 investigations also occurred on the Newport Beach, Laguna Beach and Tustin 7.5-minute U.S.G.S. quadrangle maps that are also potentially within one-half mile of the site. Although no site specific surveys have been conducted on the subject property, the site has been substantially altered in order to accommodate the existing golf and tennis facilities. The project proposes changes only to areas of the site that have previously been altered by grading and prior development. The new Golf Clubhouse is proposed to be located in the same area as the existing Golf Clubhouse. As a result, any grading and site alteration that is anticipated would affect the same areas that have previously been altered in order to accommodate the existing Golf Clubhouse and related facilities. Similarly, alteration of the Tennis Club portion of the site necessary to accommodate the new Tennis Clubhouse, The Bungalows, and The Villas will also affect areas that have previously been graded and substantially altered. As a result, project implementation will not adversely affect archaeological/cultural resources that may exist on the site. Although no significant impacts are anticipated and no mitigation measures are necessary, the City will require that a qualified archaeologist/paleontologist be present during grading and site alteration to monitor grading and landform alteration (refer to SC-8). Implementation of this measure is consistent with applicable Policy No. HR 2.2 of the Historic Resources Element of the Newport Beach General Plan.

The City of Newport Beach complied with the requirements of SB 18 by submitting a request to the Native American Heritage Commission (NAHC). In addition, the City also sent a tribal consultation request to the Native American representative, Mr. David Belardes (Chairperson, Juaneño Band of Mission Indians Acjachemen Nation) on September 8, 2005 in compliance with both SB18 and Policy No. HR 2.3 that requires notification of cultural organizations. The City did not receive a response to the SB18 consultation request. Subsequent to that letter, a follow-up request was sent to Mr. Belardes on May 15, 2009 to apprise the Native American representative of changes to the project and request consultation with the Native Americans. To date, no response to the consultation request has been received by the City.

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[2] "Record Search Results for the Proposed Newport Beach Country Club Project Located in the City of Newport Beach, California; South Central Coastal Information Center; Letter dated June 2, 2009.

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

Less Than Significant Impact. As indicated above, the project area is located within an urbanized area of the City of Newport Beach and has been previously graded and developed. Any near-surface paleontological resources that may have existed at one time have likely been disturbed and/or destroyed by prior development activities. Therefore, no potentially significant impacts are anticipated and no mitigation measures are required. It is not likely that implementation of the project will result in any potentially significant impacts to paleontological resources because of the prior development activities that have taken place on the site. Nonetheless, as identified below, monitoring of the grading activities by a qualified paleontologist will be required as prescribed below to ensure that in the event that fossils or other important paleontological resources are encountered, appropriate measures can be taken to avoid adverse impacts to those resources.

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

No Impact. The project site and surrounding areas are highly disturbed due to past urban development and there is no evidence of human remains or sites of Native American burials. Based on the degree of disturbance that has already occurred on the site (i.e., golf and tennis facilities) and in the vicinity of the project site (i.e., Newport Center), it is anticipated that project implementation would not result in potentially significant impacts to human remains; however, as indicated below, a qualified archaeological/paleontological monitor will be present on-site during grading to ensure that in the event human remains are encountered, appropriate measures will be implemented in accordance with State law regarding human remains.

Mitigation Measures

Although no significant impacts are anticipated, the following standard condition is required by the City to ensure that potential impacts to cultural and/or scientific resources that may be encountered during grading are avoided.

SC-8 A qualified archaeological/paleontological monitor shall be retained by the project applicant who will be available during the grading and landform alteration phase. In the event cultural resources and/or fossils are encountered during construction activities, ground-disturbing excavations in the vicinity of the discovery shall be redirected or halted by the monitor until the find has been salvaged. Any artifacts and/or fossils discovered during project construction shall be prepared to a point of identification and stabilized for long-term storage. Any discovery, along with supporting documentation and an itemized catalogue, shall be accessioned into the collections of a suitable repository. Curation costs to accession any collections shall be the responsibility of the project applicant.

MM-1 The City shall provide an opportunity for a Native American representative to monitor excavation activities. The representative shall be determined by the City based on input from concerned Native American tribes (i.e., Gabrielino, Juaneño, and Tongvas).

VI. 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?

Less than Significant Impact. The site is located in the Newport Center/Fashion Island area of the City, which is near the intersection of the Southwestern Block and the Central Block of the Los Angeles Basin. The Southwestern Block is the westerly seaward portion of the Los Angeles Basin, which includes Palos Verdes Peninsula and Long Beach, and is bounded on the east by the Newport-Inglewood Fault Zone (NIFZ). The landward part of the NIFZ is a northwesterly-trending zone that extends from Beverly Hills on the north to Newport Bay on the south, where it continues offshore to the south; however, it eventually returns ashore again near La Jolla, where it is expressed by the Rose Canyon Fault. The NIFZ within the project environs is not included on the State-published Alquist-Priolo Special Studies zonation map.

The subject property is located within a seismically active area. There are no known local or regional active earthquake faults on the site, and the site is not within an Alquist-Priolo Zone. However, the site is located within close proximity of several surface faults that are presently zoned as active or potentially active by the California Geological Survey. The site is located approximately 3.7 kilometers (km) east of the Newport-Inglewood fault zone. The site may also be located within in 1 km of the San Joaquin Hills Blind Thrust, an inferred, low-angle fault system (e.g., blind thrust). These faults normally do not break the ground surface during sizeable earthquakes. Another active fault that could generate seismic activity that affects the subject property and surrounding area is the Elsinore Fault. The Newport-Inglewood and Elsinore Fault Zones could produce earthquakes of magnitude 6 – 7 on the Richter Scale, with local strong ground motion equivalent to at least VIII – IX on the modified Mercali Scale. Although episodes on those faults could cause ground shaking at the project site, it is highly unlikely that the site would experience surface rupture. Therefore, no significant ground rupture impacts would occur as a result of project implementation.

ii) Strong seismic ground shaking?

Less than Significant Impact. See response to VI.a (i) above. As indicated above, the subject property is located in the seismically active southern California region; several active faults are responsible for generating moderate to strong earthquakes throughout the region. Due to the proximity of the site to the San Joaquin Hills Blind Thrust and the Newport-Inglewood Fault zone, the subject property has a moderate to high probability to be subjected to seismic and associated hazards. A probabilistic seismic hazard analysis of horizontal ground shaking was performed to evaluate the likelihood of future earthquake ground motions occurring at the site. The maximum earthquake of 23 faults within an 80 km radius of the site based on the seismic hazard analysis conducted for the project. The earthquake magnitudes associated with each fault are presented in Table 4.

Table 4

Seismic Source Model
Newport Beach Country Club

Fault	Distance (km)	Seismology Parameters		
		Maximum M_w	Fault Type[1]	Slip Rate (mm/yr)
San Joaquin Hills Blind Thrust	<1.0	6.6	bt	0.5
Newport Inglewood (Offshore)	3.7	7.1	rl-ss	1.5
Newport-Inglewood (L.A. Basin)	4.1	7.1	rl-ss	1.0
Palos Verdes	22.9	7.3	rl-ss	3.0
Chino-Central Avenue	30.7	6.7	rl-r-o	1.0
Whittier	33.7	6.8	rl-ss	2.5
Elsinore-Glen Ivy	35.2	6.8	rl-ss	5.0
Puente Hill Thrust	35.2	7.1	bt	0.4
Coronado Bank	38.3	7.6	rl-ss	3.0
San Jose	47.7	6.4	ll-r-o	0.5
Elsinore-Temecula	49.4	6.8	rl-ss	5.0
Elysian Park Thrust (upper)	54.8	6.4	r	1.3
Sierra Madre	58.2	7.2	r	2.0
Cucamonga	58.9	6.9	r	5.0
Raymond	60.6	6.5	ll-r-o	1.5
Verdugo	63.2	6.9	r	0.5
Clamshell-Sawpit	64.0	6.5	r	0.5
Hollywood	65.2	6.4	ll-r-o	1.0
Rose Canyon	68.8	7.2	rl-ss	1.5
Santa Monica	70.7	6.6	ll-r-o	1.0
San Jacinto-San Bernardino	74.1	6.7	rl-ss	12.0
San Jacinto-San Jacinto Valley	75.0	6.9	rl-ss	12.0
Malibu Coast	76.4	6.7	ll-r-o	0.3

[1]rl – right-lateral; ll – left lateral; ss – strike-slip; r – reverse; o – oblique; bt – blind thrust

SOURCE: GMU Geotechnical, Inc. (May 2, 2008)

The maximum earthquake on the NIFZ is estimated to be 7.1 on the Richter Scale. Similarly, the maximum earthquake on the San Joaquin Hills Blind Thrust is 6.6. Other faults capable of producing seismic activity that could affect the subject property include the San Jacinto Fault and the Whittier Fault, which is a northern branch of the Elsinore Fault. Even though the project site and surrounding areas could be subject to strong ground movements, incorporation of the recommendations included in the preliminary geotechnical report, adherence to current building standards of the City of Newport Beach, and compliance with current California Building Code standards would reduce the potential adverse effects of ground movement hazards to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

No Impact. Based on the geologic exploration undertaken on the subject property, the site is underlain by sedimentary rocks of the Monterey Formation. These rocks do not have the potential for liquefaction. Furthermore, no groundwater is present to the depths and no loose sands or coarse silt is present. Therefore, the potential for liquefaction is negligible and less than significant. Proper design of the proposed structures will ensure that ground failure, including that associated with liquefaction, will not pose a significant hazard to the development.

iv) Landslides?

No Impact. The site is generally devoid of slopes and no significant slopes are planned within the property. Potential effects associated with slope stability are, therefore not anticipated to have an adverse impact on the proposed project. No significant impacts are anticipated an no mitigation measures are required.

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

Less than Significant with Mitigation Incorporated. Implementation of the proposed project will necessitate grading and excavation necessary to accommodate the proposed Golf Clubhouse, Tennis Club, The Bungalows, and The Villas that will temporarily expose on-site soils to potential erosion. In that interim period, it is possible that some erosion may occur, resulting in some sedimentation; however, in order to ensure that erosion and sedimentation are minimized, the applicant will be required to prepare and submit an adequate drainage and erosion control plan, which complies with current City standards. Although it is possible that potential erosion could occur without the incorporation of appropriate measures, implementation of the mandatory appropriate erosion controls will avoid potential erosion impacts associated with site grading and development. Further, the proposed site will be engineered to ensure that surface/subsurface drainage does not contribute to erosion or adversely affect the stability of project improvements. Other efforts required to ensure that potential erosion is minimized include slope protection devices, plastic sheeting, inspection for signs of surface erosion, and corrective measures to maintain, repair or add structures required for effective erosion and sediment movement from the site. As a result, potential impacts occurring from project implementation, including those anticipated during grading and after development of the site, will be avoided or reduced to a less than significant level.

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?

Less than Significant with Mitigation Incorporated. Refer to Section VI.a.iv, above. As previously indicated, potential slope failure/landslide potential is not anticipated because no slopes are proposed and no significant slopes exist on the subject property. Therefore, site preparation and design of the proposed residence in accordance with the recommendations contained in the preliminary geotechnical report and compliance with the California Building Code will ensure that potential impacts will be avoided or reduced to a less than significant level.

The depth of planned engineered fill is anticipated to be five to 10 feet following both design and corrective grading. Total fill depths (i.e., new and existing fill) are anticipated to range from five to 25 feet. All fill will be placed as engineered fill on top of existing suitable artificial fill, terrace deposits, or bedrock. Post-grading settlement of the shallow-depth fills is anticipated to be minor as most of the grading related to settlement (i.e., due to fill self weight) should be complete at the completion of grading. Secondary compression is not anticipated due to: (1) the low plasticity of anticipated fill soils; (2) the low fill thickness; and (3) the over-consolidated nature of the underlying terrace deposits and bedrock. Hydro-compression of the fill soils should also be minor due to the fact that the fills will be placed above optimum moisture content.

Significant post-grading settlement of the underlying bedrock due to loading from the proposed fills is not anticipated. Similarly, hydro-collapse of the bedrock materials will be negligible due to the existing high density and over-consolidated nature of the materials. For these reasons, post-grading settlements related to grading are not anticipated to have a significant effect on structures and improvements. Adherence to the recommendations in the preliminary geotechnical report will ensure that potential effects associated with settlement would be avoided.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2007)), creating substantial risks to life or property?

Less than Significant with Mitigation Incorporated. Based on the analysis conducted for the proposed project, the on-site surface materials have a very low to low expansion index and a negligible sulfate content. However, because testing results were in the upper limit of the "low" expansion classification, it is anticipated that medium expansion potential may exist. The subject site is underlain by artificial fill, colluvium, and terrace deposits overlying bedrock assigned to the Monterey Formation. Adherence to the recommendations in the Report of Geotechnical Studies (GMU, 2008) prepared for the project will ensure that impacts associated with expansive soils would be avoided. With the incorporation of these recommendations, potential impacts will be less than significant.

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

No Impact. The project will be connected to existing sewer lines. No septic tanks or alternative waste water disposal systems are proposed. Therefore, no significant impacts related to the implementation of an alternative waste disposal system are anticipated and no mitigation measures are required.

Mitigation Measures

As indicated in the geotechnical report prepared for the proposed project, construction of the proposed improvements (i.e., Golf Club, Tennis Club, The Bungalows, and Villas) is feasible from a geotechnical perspective. The following measures shall be implemented to ensure that no potentially significant geotechnical impacts identified in the preceding analysis occur.

SC-9 All grading operations and construction shall comply with the applicable City of Newport Beach Grading Code and Grading Manual and the most recent version of the California Building Code.

SC-10 Prior to issuance of the grading permit, an erosion control plan shall be submitted to and approved by the City's Chief Building Official.

SC-11 Prior to issuance of a grading permit, the applicant shall submit a soils engineering report and final geotechnical report to the City's Building Department for approval.

MM-2 The project shall be designed to incorporate the recommendations included in "Revised Preliminary Geotechnical Design Parameters for the NBCC Planned Community" (April 25, 2008) and "Report of Geotechnical Studies and Review of Vesting Tentative Tract Map No. 15347" (May 2, 2008) prepared by GMU Geotechnical that address site grading, site clearing, compaction, bearing capacity and settlement, lateral pressures, footing design, seismic design, slabs on grade, retaining wall design, subdrain design, concrete, surface drainage, landscape maintenance, etc. The Building Department shall review the grading plan to ensure conformance with recommendations contained in the final geotechnical report.

VII. GREENHOUSE GAS EMISSIONS

Background

The earth's natural warming process is known as the "greenhouse effect." The greenhouse effect keeps the earth warm and habitable, raising the temperature of the earth's surface by about sixty degrees Fahrenheit. With the natural greenhouse effect, the average temperature of the earth is about 45 degrees Fahrenheit. Obviously, the earth would be much less inviting without the greenhouse effect.[3] It is

[3] *Climate Change 101: Understanding and Responding to Global Climate Change*, published by the Pew Center on Global Climate Change and the Pew Center on the States.

normal for the earth's temperature to fluctuate over extended periods of time. For example, the climate of the Northern Hemisphere varied from a relatively warm period between the eleventh and fifteenth centuries to a period of cooler temperatures between the seventeenth century and the middle of the nineteenth century.[4] Viewed in historic terms, global climate change is a natural phenomenon.

Over the past one hundred years, the earth's average global temperature has generally increased by one degree Fahrenheit. In some regions of the world, the increase has been as much as four degrees Fahrenheit.[5] Many scientists studying the particularly rapid rise in global temperatures during the late twentieth century say that natural variability does not alone account for what is happening now.[6] Rather, they say, human activity spawned by the industrial revolution has resulted in increased emissions of carbon dioxide and other forms of "greenhouse gas" (GHG), primarily from the burning of fossil fuels (during motorized transport, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.) and deforestation, as well as agricultural activity and the decomposition of solid waste. These scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect.[7] While the increase in temperature is known as "global warming," the resulting change in weather patterns is known as "global climate change." Global climate change is evidenced in wind patterns, storms, precipitation, and air temperature.

The human-produced GHGs believed to be responsible for the enhanced greenhouse effect and their relative influence on the global warming process (i.e., their relative ability to trap heat in the atmosphere) are estimated to be: carbon dioxide (CO_2) (53 percent); methane (CH_4) (17 percent); near-surface ozone (O_3) (13 percent); nitrous oxide (N_2O) (12 percent); and chlorofluorocarbons (CFCs) (5 percent). The most common GHG is CO_2, which constitutes approximately 84 percent of all GHG emissions in California (California Energy Commission, 2006). Worldwide, the State of California ranks as the 12th to 16th largest emitter of CO_2 (the most prevalent GHG) and is responsible for approximately 2 percent of the world's CO_2 emissions (CEC 2006).

The warming pattern of the last 100 years, however, does not present a steady and consistent rise in the earth's temperature. Scientists have noted significant warming between 1910 and 1940, moderate cooling from 1940 to 1975, and a large warming again starting in 1975.[8] Additionally, there remains debate over the precise extent to which the enhanced greenhouse effect differs from the natural greenhouse effect, as well as the amount of the change in temperature and climate which can be attributed to human activity, as opposed to natural cycles. There is, however, general agreement within the scientific community that increasing emissions of GHGs have significantly contributed to a trend of increasing the Earth's average temperature and that human activity plays a significant role in those emissions. It also is generally agreed that the warming of the earth produces changes in the Earth's climate.

Methodology has been evolving over the past several years relative to the evaluation under CEQA of the potential impacts of GHG emissions upon global climate change and, in turn, the impacts of global climate change upon the environment. The evaluation contained in this MND reflects the City's thorough investigation and analysis of the proposed Project's incremental contribution to greenhouse gas emissions and the potential impacts those emissions may have on the environment. This evaluation has been shaped by (i) the provisions of CEQA and its Guidelines (and, specifically, newly effective CEQA Guidelines addressing the evaluation of GHG emissions) which dictate the required scope and extent of

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[4] Id.

[5] Brohan, P., J.J. Kennedy, I. Haris, et al., Uncertainty estimates in regional and global observed temperature changes: a new dataset from 1850. *Journal of Geophysical Research*, 2006. 111: p. D12106, doi:10.1029/2003JA009974.

[6] Intergovernmental Panel on Climate Change. 2001. "Comparison between modeled and observations of temperature rise since the year 1860." In *Climate Change 2001: Synthesis Report*, Contribution of Working Groups I, II, and III to the Third Assessment Report. Robert T. Watson and the Core Writing Team, eds. Cambridge University Press, Cambridge, UK.

[7] *Climate Change 101: Understanding and Responding to Global Climate Change*, published by the Pew Center on Global Climate Change and the Pew Center on the States.

[8] Id.

impact analysis, and (ii) the City's recently employed methodology for the evaluation of GHG emissions which supplements CEQA's requirements. Additional background is as follows:

AB 32 and Amended CEQA Guidelines

In adopting the California Global Warming Solutions Act of 2006 (commonly known as "AB 32"), the State Legislature declared that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Further, the Legislature determined that "the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems." The Legislature added that "[g]lobal warming will have detrimental effects on some of California's largest industries" and will "increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state."

AB 32, however, did not amend CEQA or establish regulatory standards to be applied to new development or environmental review of projects within the State. Rather, AB 32 initiated a long-term program for "the development of [GHG] emissions reduction measures." Quoting from a public notice prepared by the staff of the California Air Resources Board ("CARB") in connection with a meeting on October 25, 2007, to consider "early discrete actions," AB 32 "creates a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020." The Act recognizes that such an ambitious effort requires careful planning and a well thought out set of strategies.

Despite some perceptions to the contrary, neither AB 32 nor subsequent actions taken to date by either the Legislature, the Governor, the California Air Resources Board (CARB), or the Governor's Office of Planning and Research (OPR) have established either (i) specific new regulatory standards as part of a statewide or regional plan to curb global warming impacts, or (ii) thresholds of significance for the evaluation of either direct or cumulative impacts under CEQA.

Certain milestones were, however, established by the Act, including an important milestone for the adoption of amended CEQA Guidelines intended to address the methodology for evaluating GHG impacts (the "Amended Guidelines"). Those Amended Guidelines have been adopted and became effective on March 18, 2010. However, while the Amended Guidelines provide guidance to public agencies in their analysis under CEQA of GHG emissions and call for a "good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project" (CEQA Guidelines Section 15064.4), they do not establish any specific thresholds to be used by agencies in evaluating the significance of potential GHG impacts.

Therefore, this MND evaluates potential GHG impacts by following the guidance of the Guidelines in the context of the overall directives of CEQA for impact evaluation. To supplement that CEQA analysis, this MND also evaluates potential GHG impacts using a separate threshold recently employed by the City for the evaluation of GHG emissions.

Global Climate Change in the CEQA Context

The evaluation of a project's impacts on global climate change begins with an analysis of the project's GHG emissions. Greenhouse gases include CO_2, CH_4, N_2O, and CFCs. CO_2 is the GHG most focused upon, because it exists in greatest volume in the atmosphere. Currently CO_2 levels are approximately 380 ppm (parts per million). Prior to the industrial era (which began in the late 1800s), CO2 levels in the atmosphere had not exceeded 280 ppm, for the last million years. Due to human activities after the onset of the industrial era, GHGs, including CO_2, have risen at exponential levels. It is well documented that human activities are a direct cause of increases in GHG concentrations in the atmosphere over this time period.

A particular challenge to global climate change analysis under CEQA, however, is that while the evaluation of a project's *direct* impacts may start with the simple question of whether the project *contributes* to an environmental effect such as global climate change, it does not end there. Rather, CEQA requires a legitimate determination as to whether the project contributes to a level that makes that contribution *significant.* CEQA defines a "significant effect on the environment" as a substantial, or potentially substantial, adverse change in the environment. Exactly what contribution to an impact is required for an impact to be "significant" is evaluated through the establishment of a "threshold of significance."[9] A threshold of significance cannot be an arbitrary measure. With respect to global climate change and absent an adopted regulatory standard, the establishment of a feasible and practical significance threshold which meets the requirements of CEQA and the United States Constitution has proved challenging.

Because GHGs are well mixed in the atmosphere and remain in the atmosphere for periods ranging from decades to centuries, GHG emissions from each single worldwide source commingle with emissions from all other worldwide sources in a matter of days to influence climate change on a *global*, rather than *local* or *regional*, basis.[10] California GHG emissions, for example, do not specifically produce global climate change impacts in California, but rather quickly commingle with GHG emissions from around the world to influence global climate change patterns throughout the world. This "commingled" nature of GHG emissions makes it infeasible to assess the relative contribution of any one project's GHG emissions to worldwide GHG emissions without undue speculation.

So, while certain emissions may contribute to both air quality and global climate change impacts, air quality impacts represent an entirely different phenomenon than global climate change impacts. Therefore, the analysis of the impact of GHG emissions on global climate change requires different methodology than does the analysis of the impact of the emission of air pollutants on air quality conditions.

CEQA does not authorize the imposition of mitigation measures that do not comply with the doctrines of "nexus" and "rough proportionality" (see CEQA Guidelines §15126.4(a)(4)(A and B). These doctrines have been articulated by the United States Supreme Court and provide, in essence, that before mitigation may be imposed upon a proposed project, (i) there must be a direct relationship (i.e., "nexus") between the impacts of the project and the mitigation imposed and (ii) the mitigation required must be "roughly proportional" to the project's contribution to the impact relative to existing conditions and other projects.

Thus, even if it were feasible to evaluate the impacts of a small project on global climate change, mitigation of that project's contribution to global climate change may be required only if (i) the proposed project's impact can be determined based upon an appropriate threshold of significance, (ii) feasible mitigation can be identified which has a nexus to the impact, and (iii) the mitigation is roughly proportional to the proposed project's relative contribution to the impact. These criteria also are infeasible, if not impossible, to apply without speculation.

CEQA also allows a project to be evaluated for consistency with "applicable general plans and regional plans" (see CEQA Guidelines §15125(e)). Such plans would include, for example, "the applicable air quality attainment or maintenance plan." These plans involve legislative or regulatory programs applicable to all projects within the region. They establish standards which are independent of the impact analysis described in the CEQA Guidelines (see provisions beginning with Section 15126). Therefore, the "measuring stick" of a regional plan does not require a typical CEQA impact analysis in order to ensure compliance with that plan. While the program for GHG emissions reductions and maintenance which ultimately is intended to result from AB 32 will likely constitute such a regional plan *once it is adopted,* that AB 32 program does not yet exist and may not be in place for several years. No other program establishing such regulatory standards has yet been adopted. Therefore, there is not yet a regional or statewide plan regulating global warming by which the Proposed Project can be measured.

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[9] CEQA Guideline §15064.7 defines a "threshold of significance" as "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant."

[10] Pew Center for Global Climate Change (2003). *Designing a Mandatory Greenhouse Gas Emissions Reduction for the U.S.,* retrieved March 12, 2007, from http://www.pewclimate.org/docUploads/USGas%2E.pdf.

Each of these considerations bears on this MND's evaluation of the potential impacts of GHG emissions on global climate change.

Threshold for Determining Significance

There is general scientific acceptance that global warming is occurring and that human activity is a significant contributor to the process, suggesting to some that the emission of even a minute amount of GHG contributes to the warming process. However, under CEQA, such a conclusion would result in an improper threshold. The reasons are straightforward.

First, because regulatory programs establishing specific GHG emission standards have not been adopted, the CEQA analysis of global climate change, must focus only on the "relative" – as opposed to "absolute" – effects of a project, using existing environmental conditions as a baseline. That means that the evaluation of a proposed project's potential GHG impacts must determine whether the proposed project's contribution to global climate change is significant *when compared to the conditions existing when preparation of the EIR began.*

Second, of precise relevance to any argument that even small amounts of GHG emissions are intended to be prohibited by AB 32, AB 32 explicitly established the State's policy that *"de minimis"* emissions shall not be subject to regulation. Specifically, AB 32 requires that CARB *"recommend a de minimis threshold of greenhouse gas emissions below which emission reduction requirements will not apply."*

Direct Impacts

Given the scope and magnitude of global GHG emissions, there is little, if any, support in the scientific and environmental communities for the proposition that an isolated project's relatively miniscule contribution of GHG *standing alone* (i.e., a direct, as opposed to cumulative, project impact) would significantly alter the course of global climate change. In its April 13, 2009, letter to the Secretary for Natural Resources accompanying the proposed Amended Guidelines, OPR stated that the "impact resulting from greenhouse gas emissions are cumulative in nature." In a 2008 Technical Advisory, OPR noted that "climate change is ultimately a cumulative impact." Essentially, with the theoretically possible exception of an extremely large project emitting extreme amounts of GHG, a project's "net"[11] contribution to GHG emissions relative to existing conditions is subject to evaluation, if at all, only on a cumulative basis.

Cumulative Impacts

With respect to cumulative impacts, CEQA establishes specific criteria for impact evaluation when assessing whether an EIR must be prepared. (CEQA Guidelines §15064(h). The Initial Study and/or MND must determine if the proposed project's effects would be "cumulatively considerable," meaning "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects." (CEQA Guidelines §15065(h)(1)).

Section 15064(h)(3) of the Guidelines provides that a "lead agency may determine that a project's incremental contribution to a cumulative effect is not considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem." As noted above, no such plan or program yet exists.

Section 15130 of the Guidelines sets forth the methodology by which an EIR must assess the significance of cumulative impacts. Because the MND criteria set forth in Section 15064(h)(1) and 15064(h)(3) are essentially the same as those set forth in the more detailed Section 15130, this MND utilizes that more

[11] "Net" refers to the relative, rather than absolute, contribution of a proposed project when compared to the existing environmental conditions.

detailed description as guidance in its evaluation of whether the Proposed Project's potential cumulative impacts related to global climate change are significant and cumulatively considerable. Section 15130(b) states that the "following elements are ***necessary*** (emphasis added) to an adequate discussion of significant cumulative impacts:

"(1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency."

Obviously, absent gross speculation, a list of past, current, and reasonably foreseeable future projects throughout the world which potentially contribute to global warming is not feasible to assemble. And, as discussed above, there is not yet an adopted or certified planning document which contains a summary of projections based on known or likely worldwide projects. Therefore, this MND cannot feasibly evaluate potential cumulative project global climate change impacts in the "necessary" manner currently required by CEQA.

With this extensive background, the analysis of the potential effects of the Proposed Project is as follows:

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

Less than Significant Impact. During project construction, the URBEMIS2007 computer model predicts that a peak activity day in the single worst case year of construction (2009 during demolition and grading) will generate 9,004.8 pounds/day of CO_2.

Equipment exhaust also contains small amounts of methane and nitric oxides, which are also GHGs. Non-CO_2 GHG emissions represent approximately a three percent increase in CO_2.equivalent (CO_2e) emissions from diesel equipment exhaust. For purposes of analysis, it was assumed that the non-CO_2 GHG emissions from construction equipment are negligible, and that the total project construction GHG burden can be characterized by 40 peak activity days. The estimated annual GHG impact is estimated to be 164 metric tons (MT)/year, if all the above activities were to occur in a single year.

For screening purposes, the temporary construction activity GHG emissions were compared to the chronic operational emissions in the SCAQMD's interim thresholds. The proposed industrial operational threshold is 10,000 metric tons (MT) of CO_2e per year.[12] Grading activities generating 164 MT are well below this threshold. Construction activity GHG emissions are also below the proposed operational screening criteria of 3,000 MT for non-industrial uses.[13]

The Proposed Project's daily operational CO_2e emissions will be less than existing emissions from reduced project-site travel. The annual reduction of 574 MT (631 "short" tons) of CO_2e emissions will offset the 196 MT of "new" CO_2e emissions generated by the Proposed Project.

Because the Proposed Project will generate fewer GHG emissions than are generated under existing environmental conditions and despite the challenge of establishing thresholds of significance for global climate change impacts, it can be fairly stated that under any threshold which would be permitted by CEQA, the Proposed Project will not have a significant impact on global climate change.

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[12] Recommended by the South Coast Air Quality Management District.
[13] Id.

As a result, the Proposed Project will not produce GHG emissions to a level which will have a significant impact on global climate change.

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

Less than Significant Impact. As discussed extensively above, there is not yet a plan, policy, or regulation adopted to reduce GHG emissions which is applicable to the Proposed Project. The City of Newport Beach, however, has implemented an informal policy for the environmental evaluation of potential GHG impacts of proposed projects. That policy provides that, until more guidance is provided from the expert agencies such as CARB and/or SCAQMD, the City intends to consider projects emitting 1,600 metric tons of CO_2e or less per year to be less than significant contributors to global climate change, thereby not requiring further analysis. For projects exceeding the screening threshold of 1,600 metric tons of CO_2e emissions per year, the City will consider those projects to have significant impacts if they either (1) are not substantially consistent with policies and standards set out in federal, state, and local plans designed to reduce GHGs or (2) would emit more than 6,000 metric tons of CO2e per year. Projects that do not meet these thresholds would be considered to have significant impacts, and thus could be expected to impede the State's mandatory requirement under AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. As set forth above, in a "worst case" year, the Proposed Project's daily CO_2e emissions during construction will equal no more than 164 metric tons. The operational activities of the Proposed Project, which, under CEQA, must be evaluated not in "absolute" terms, but rather by comparison to existing environmental conditions, will not only be well below the City's informal threshold at 196 metric tons per year on an absolute basis, but will actually reduce overall operational GHG emissions by approximately 378 metric tons per year on an ongoing basis.

Therefore, not only will the Proposed Project not conflict with any adopted plan, policy, or regulation pertaining to GHG emissions and comply with the City's informal GHG threshold, it will actually reduce GHG emissions on a long-term basis. As a result, the Proposed Project will not produce GHG emissions to a level which will have a significant impact on global climate change.

Speculation and Guidelines Section 15145

Finally, it must also be noted that Section 15145 of the CEQA Guidelines provides that "[i]f, after thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." Beyond the analysis contained in this MND, which, standing alone, complies with CEQA's analysis requirements, technical data does not yet exist that would allow the City to determine without the use of undue speculation how a project of this size would, relative to other proposed projects throughout the world, contribute to global climate change. Evaluation using speculative "per capita" or other projections of worldwide GHG emissions based upon projections of population growth over many decades may provide valuable information, but would not constitute an analysis of the "incremental effects" of the project in either of the contexts identified in Section 15130(b) of the CEQA Guidelines which are discussed above. Therefore, because (i) CEQA prohibits speculative analysis and (ii) the Proposed Project's projected GHG emissions will not exceed those generated under existing environmental conditions, further analysis is not required.

Mitigation Measures

Because there are no impacts related to global climate change, no mitigation measures are required. However, it should be noted that the following standard conditions and project design features have been incorporated into the Proposed Project and will contribute to the Proposed Project's net long term reduction of GHG emissions.

SC-12 All new buildings shall meet Title 24 requirements.

SC-13 Water conservation design features shall be incorporated into building and landscape designs.

PDF-1 Design of buildings shall take into account the location of building air intake to maximize ventilation efficiency and incorporate natural ventilation.

PDF-2 The buildings shall incorporate energy-conserving heating and lighting systems.

PDF-3 The project shall incorporate fast-growing, low water use landscape to enhance carbon sequestration and reduce water use.

VIII. 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?

Less than Significant with Mitigation Incorporated. Construction activities associated with the proposed project would include oil, gas, tar, construction materials and adhesives, cleaning solvents and paint, and other similar construction-related materials. Transport of these materials to the site and use on the site would only create a localized hazard in the event of an accident or spills. Hazardous materials use, transport, storage and handling would be subject to federal, state and local regulations to reduce the risk of accidents. Equipment maintenance and disposal of vehicular fluids is subject to existing regulations, including the National Pollutant Discharge Elimination System (NPDES). Given the nature of the project in terms of scope and size (i.e., redevelopment of existing private golf and tennis facilities), it is anticipated that normal storage, use and transport of hazardous materials will not result in undue risk to construction workers on the site or to persons on surrounding areas. The use and disposal of any hazardous materials on the site and in conjunction with the project will be in accordance with existing regulations. With the exception of quantities of pesticides, fertilizers, cleaning solvents, paints, etc., that are typically used to maintain the golf course located on the property, on-going operation of the Newport Beach Country Club and proposed residential and resort uses will not result in the storage or use of significant quantities of hazardous materials beyond that currently used. As a result, no significant impacts are anticipated related to the use, disposal and/or storage of hazardous materials in association with the proposed uses. As indicated in Section VIII.c, remediation of the ACM and LBP in accordance with regulatory requirements would avoid any potential impacts previously identified. No additional mitigation measures are required.

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?

Less than Significant Impact. According to historical sources and regulatory database information, the subject property (1600 East Coast Highway) was previously equipped with a 550-gallon underground gasoline storage (UST) tank that was installed in the southwestern corner of the property in 1965 and removed in 1987. A Summary of Remedial Operations Report was prepared (1987), which revealed that the tank had a dime-sized hole in the bottom. Subsequent sampling and laboratory analysis were undertaken that indicated elevated levels of hydrocarbon, including aromatic constituents' benzene, were present in the subsurface soil below the excavation pit. Excavation and sampling of the soils were conducted, which indicated that the constituents analyzed were non-detect[14] and closure was granted by the Orange County Health Authority (*sic*). Based on the results of the previous investigation and regulatory closure, the former 550-gallon UST in the southwestern portion of the subject property is not expected to represent a significant environmental concern.

The proposed project's demolition and construction do not involve any activities and/or uses that would utilize hazardous materials or other substances that would, if released into the environment, create a safety or health hazard, other than those which are part of the existing environmental conditions because they are currently used to maintain the golf course and related facilities. The nature of the existing golf course use involves the application, storage, and mixing of pesticides and herbicides on the property.

[14]Partner Engineering and Science, Inc.; Addendum Letter dated March 29, 2010.

The chemicals are utilized to service the golf course greens and fairways. The chemicals, fertilizers and other hazardous materials will continue to be maintained on the premises in accordance with existing and future regulatory storage and use requirements. As a result, no significant impacts are anticipated and no mitigation measures are required.

In addition, two 55-gallon drums of waste oil within the maintenance area of the golf course were observed during the field investigation conducted during the Phase I ESA. The drums were used to store waste oil during golf cart repair activities and were stored over secondary containment. No spills, leaks or drains were observed near the vicinity of the drains. Based on the good housekeeping practices and lack of direct conduit to the subsurface of the subject property near the waste oil drums, these drums are not expected to represent a significant environmental concern. No changes in these operations or activities are anticipated as a result of project implementation. Continued compliance with regulatory requirements will ensure that no potentially significant impact would occur. No mitigation measures are required.

Two ponds are located within the boundaries of the golf course. No violations were noted during the research and information search. No hazardous materials were noted near the vicinity of the ponds, which are located throughout the golf course. Based on the lack of documented releases and evidence of hazardous materials near the ponds, they are not expected to pose a significant environmental concern or hazard.

Finally, three (3) pole-mounted transformers were observed on the subject property. The transformers are not labeled indicating PCB content. No staining or leakage was observed in the vicinity of the transformers. Based on the good condition of the equipment, the transformers are not expected to represent a significant environmental concern. The transformers appear to be owned by Southern California Edison (SCE), which would be responsible for maintenance of these facilities. Additionally, no other potential PCB-containing equipment (e.g., interior transformers, oil-filled switches, hoists, lifts, dock levelers, hydraulic elevators, etc.) was observed on the subject property during the site reconnaissance.

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

Less than Significant Impact. Visual asbestos surveys were conducted by Con-Test in 1992 and also during a Phase I ESA by prepared by Law/Crandall, Inc., in 1994. During that latter visual survey, several areas within the Newport Beach Country Club facilities were observed to have asbestos containing materials (ACM), including:

- Floor tile located in the back office of the first floor of the clubhouse.
- Vinyl flooring located on the second floor next to the ballroom of the clubhouse.
- Floor tile located on the first floor in the women's restroom near the office area of the clubhouse.
- Vinyl flooring located on the first floor in the restaurant waiter's room of the clubhouse.
- Spray-applied acoustical ceiling located in the manager/receptionist offices, professional shop, dressing room, and women's locker room of the clubhouse.
- Exterior plaster located outside the professional shop of the clubhouse.
- Air cell pipe insulation located in the restroom hallway of the kitchen, janitor storage room, and the roof attic mechanical area of the clubhouse.
- Air cell duct insulation located in the roof attic mechanical area.
- Pipe elbow insulation located in the roof attic mechanical area of the clubhouse.
- Roof penetration sealant located at the perimeter flashings and penetrations of the low and high roof of the clubhouse.

The visual asbestos survey conducted by Law/Crandall, Inc., also concluded that the ACM reported in a prior survey conducted in 1992 by Con-Test was still present at the site. The Law/Crandall asbestos survey recommended that the ACM be maintained in place by instituting an operations and maintenance (O&M) program (i.e., repair damaged asbestos, clean up of contaminated areas, notification and training of employees, routine inspections of ACM, etc.), which should continue until the ACM is removed.

A limited visual evaluation of accessible areas was also conducted during the preparation of the most recent Phase I ESA prepared by Partner Engineering and Science, Inc., for the presence of suspect ACM. Based on that limited survey, suspect ACMs were noted in the acoustic ceiling tiles, vinyl floor tiles, and drywall systems within the buildings located on the subject property. All of the ACM and PACM (presumed asbestos-containing materials) were noted to be in good condition. Demolition of the existing Golf Clubhouse and other structures, which were constructed in 1964, is proposed by the applicant. Without proper remediation, it is possible that ACM could be released into the environment; however, according to the Environmental Protection Agency (EPA), ACM and PACM that are intact and in good condition can, in general, be managed safely in-place under an Operations and Maintenance (O&M) program until removal is dictated by renovation, demolition, or deteriorating material conditions. As indicated above, an O&M program was recommended in 1994 following completion of the Law/Crandall asbestos survey.

In addition to ACM, it is also possible that lead-based paint (LBP) may also exist within the structures; however, due to the commercial nature of the current use of the property, LBP was not considered within the scope of the Phase I ESA. Because the structures were built in 1964, it is also possible that LBP may exist within the structures. Similar to ACM, the release of LBP into the environmental could pose a potential health risk, given the proximity of the residential uses in the project environs. Therefore, prior to any disturbance of the structures and construction materials within the project site, a comprehensive ACM and LBP survey shall be conducted and appropriate measures prescribed to ensure that no release of either ACM or LBP occurs, including during remediation and transport and disposal of those materials. Remediation shall comply with all applicable regulatory requirements. Air emissions of asbestos fibers and leaded dust would be reduced to below a level of significance through compliance with existing federal, state, and local regulatory requirements.

d) Would the project 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?

No Impact. Information from standard federal, state, county, and city environmental record sources provided by Track Info Services Environmental FirstSearch was included in the Phase I ESA. This information revealed that with the exception of the UST previously discussed (refer to Section VIII.b), the subject property is not included on any lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Table 5 summarizes the results of the data base records searches, which revealed that no environmental concerns were identified on the site or within the requisite distances.

Based on the database search conducted for the proposed project and included in the Phase I ESA, neither the subject property nor other properties identified within one mile of the site would expose the site and/or future users to an environmental concern or hazard. No significant impacts are anticipated and no mitigation measures are required.

Radon has been identified as a potentially hazardous element. The U.S. Environmental Protection Agency (EPA) has developed a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The EPA has identified a limit of 4.0 picoCuries per Liter (pCi/L) as the "Action Limit" for Radon. Radon sampling was not conducted as part of the Phase I ESA. However, review of the EPA Map of the Radon Zones places the subject property in Zone 3, where average predicted radon levels are less than 2.0 pCi/L. Therefore, potential impacts are anticipated to be less than significant.

Table 5

Summary of Environmental Database Search
Newport Beach Country Club

Database	Applicable Radius	Results
Federal National Priorities List (NPL)	1 Mile	No sites
Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)	½ Mile	No sites
Federal CERCLIS – No further Remedial Action Planned (NFRAP)	½ Mile	No sites
Federal Resource Conservation and Recovery Act (RCRA) Corrective Action (CORRACTS) Facilities	1 Mile	No sites
Federal RCRA Treatment, Storage and Disposal (TSD) List	½ Mile	No sites
Federal RCRA Generator List	1/8 Mile	2 facilities[1]
Federal Institutional Controls/Engineering Controls (IC/EC)	¼ Mile	No sites
Federal Emergency Notification Systems (ERNS)	--	No sites on or adjacent to the subject property
Tribal lands	1 Mile	No sites
State/Tribal Sites	1 Mile	No sites
State Spills Sites (SPILLS)	1/8 Mile	No sites
Solid Waste Landfill Facilities (SWLF)	½ Mile	No sites
State/Tribal Leaking Underground Storage Tanks (LUST)	½ mile	21 sites[2]
	1/8 Mile	8 sites
State/Tribal Underground Storage Tank/Aboveground Storage Tank List (UST/AST)	--	The subject property and 3 additional sites[3]
State/Tribal VCP	½ Mile	No sites
State/Tribal Brownfield Sites	½ Mile	No sites

[1]These sites are not located adjacent to the site and, based on the relative distance, are not expected to pose a significant environmental concern.
[2]None of the UST sites identified in the database search include such facilities as the Newport Police Department, service stations, etc., which do not pose a potential environmental concern or hazard to the subject property.
[3]Neither the subject property nor the UST/AST sites identified in the Phase I ESA pose a potential environmental concern or hazard.

SOURCE: Partner Engineering and Science, Inc. (April 3, 2009)

As indicated above, no recognized environmental conditions (REC)[1] were identified during the on-site investigation and/or database search conducted for the proposed project and discussed in the Phase I ESA. As a result, no potentially significant health hazards or environmental hazards are anticipated and no mitigation measures are required.

[1]The presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

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?

No Impact. The project site is located approximately 4.0 miles south of John Wayne Airport (JWA). A portion of the Newport Beach Country Club property is located within the Airport Environs Land Use Plan (AELUP) Notification Area (i.e., FAR Part 77) for JWA. Although operations at JWA would not pose a safety hazard for the golf course and related facilities or future occupants and/or visitors at the site due to the proximity of the project to the airport, the City is required to submit the PC Amendment to the Airport Land Use commission (ALUC) for a determination of consistency in accordance with Section 4.3 of the AELUP prior to adoption by the City. Therefore, no significant impacts are anticipated and no mitigation measures are required.

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

No Impact. The subject property is not located within proximity to a private airstrip. Development of the site as proposed will not result in potential adverse impacts, including safety hazards, to people utilizing the proposed golf and tennis amenities or others residing or working in the project area. Therefore, no significant impacts will occur as a result of project implementation and no mitigation measures are necessary.

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

Less than Significant Impact. The City of Newport Beach has prepared an Emergency Operations Plan that designates procedures to be followed in case of a major emergency. Pacific Coast Highway is designated as an evacuation route in the City. The project site is not designated for emergency use within the Emergency Operations Plan. The primary concern of the Public Safety Element and the City of Newport Beach is in terms of risks to persons and personal property. Although the site is subject to seismic shaking, development pursuant to building and fire code requirements will ensure that the potential impacts are minimized or reduced to an acceptable level. The site is not located within a flood hazard area or subject to such potential disasters. Development of the subject property as proposed will not adversely affect either the evacuation routes or the adopted emergency operations planning program(s) being implemented by the City of Newport Beach. Potential circulation impacts associated with construction will be temporary in nature and will be addressed through the Construction Staging Plan that will be implemented (refer to Section XVI.f.) In addition, any construction vehicles within the public right of way are prohibited from completely blocking vehicular and emergency access by the Vehicle Code. As a result, potential short-term circulation impacts associated with construction would not be significant.

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?

No Impact. Neither the project site nor the surrounding areas are not located within a "Potential Fire Hazard Area" as identified by the Newport General Plan Public Safety Element. The subject property is located within an urbanized area of the City of Newport Beach. No significant areas of natural vegetation and/or habitat exists on the site and the proposed project would not be directly affected by the potential for wildland fires. There are no major urban or wildland fire hazards that pose a significant threat to the development. Therefore, the site is not subject to a potential risk of wildland fires. No significant impacts as a result of wildland fires will occur if the project is implemented and no mitigation measures are necessary.

Mitigation Measures

The following measures shall be implemented to ensure that no potentially significant hazards or hazardous material impacts identified in the preceding analysis occur.

SC-14 Prior to any disturbance of the construction materials within the Golf Clubhouse and/or the Tennis Clubhouse, a comprehensive ACM and LBP survey shall be conducted. Any repairs, renovations, removal or demolition activities that will impact the ACM and/or LBP or inaccessible ACM shall be performed by a licensed asbestos contractor. Inaccessible suspect ACM shall be tested prior to demolition or renovation. Proper safety procedures for the handling of suspect ACM and LBP shall be followed in accordance with federal, state and local regulatory requirements federal and California Occupation Safety and Health Administration (OSHA), and Air Quality Management District (AQMD) Rule 1403, which sets forth specific procedures and requirements related to demolition activities involving asbestos containing materials and SCAQMD Regulation X - National Emission Standards For Hazardous Air Pollutants, Subpart M - National Emission Standards For Asbestos, which include demolition activities involving asbestos.

SC-15 During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.

IX. HYDROLOGY AND WATER QUALITY

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

Less than Significant impact. Waste discharges associated with this project that could affect water quality would be limited to non-point source discharges, including potential storm water runoff of construction materials and wastes and storm water runoff from the developed site. This project would not generate any point sources of water pollution; all wastewater generated by the proposed project would discharge directly to the City's sanitary sewer system, which would not affect the present permit to operate the affected wastewater treatment plant. Because the proposed project consists of development similar to existing and adjacent properties, the raw sewage that would be generated by the proposed project would be similar in nature to that now generated and would not significantly affect wastewater treatment.

Potentially adverse water quality impacts during the construction phases would be avoided through compliance with existing regulatory programs administered by the City of Newport Beach and the Santa Ana Regional Water Quality Control Board (RWQCB). While it is impossible to anticipate all potential environmental issues that could arise on a daily basis during the course of the project, the site will be designed to address sediment and erosion control for both temporary (i.e., construction) and long-term (i.e., operational) activities occurring on the subject property. The water quality features incorporated into the project will be selected to address the main pollutants of concern for a project of this type, and for the impacted water body, i.e. Newport Bay. Newport Bay, which is located approximately 0.5 mile from the site, is listed as an "impaired" water body under Section 303(d) of the Clean Water Act, with respect to copper, nutrients, pathogens, pesticides (e.g., chlordane, DDT, PCBs, etc.), and sediment toxicity.

The pollutants of concern associated with the proposed project include sediment, nutrients, pathogens (i.e., bacteria/viruses), and pesticides. Urban runoff pollutants and their potential sources are summarized in Table 6.

Table 6

Urban Runoff Pollutants
Newport Beach Country Club

Pollutants	Potential Source	303(d) Listing
Sediment/Turbidity	Landscape Activities	Lower Newport Bay (801.14) Sediment
Nutrients	Fertilizers	Lower Newport Bay (801.14) Nutrients
Bacteria and Viruses	Animal Waste	Lower Newport Bay (801.14) Nutrients
Oil and Grease	Automobiles	N/A
Oxygen Demanding Substances	Landscape Activities	N/A
Trash and Debris	Human Waste	N/A
Pesticides	Landscape Activities	Lower Newport Bay (801.14 (Chlordane, DDT, Organosphosphate pesticides
SOURCE: Adams Streeter, Civil Engineers, Inc. (January 14, 2009)		

Implementation of the water quality features prescribed in the NPDES Technical Study prepared for the project, prior to issuance of the grading permit, will ensure that this project does not violate any water quality standards during construction. As a result, no significant impacts are anticipated and no additional mitigation measures are required.

In accordance with the Water Quality Management Plan that will be prepared for the project, appropriate BMPs will be incorporated to ensure that water quality impacts are minimized, including for the hand car wash, which includes a feature to capture and clean the wash water before it enters the sanitary sewer system. It is important to note that no water quality features exist within the limits of the project site. As a result, surface runoff currently emanating on the site and entering Newport Harbor is not treated. However, project implementation will incorporate BMPs that will treat the surface runoff associated with the existing and proposed development and will discharge treated water that will meet discharge requirements prescribed for Newport Harbor. Tables 10 (General Plan Policy Analysis) and 11(Coastal Land Use Policy Analysis) in Section X (Land Use and Planning) provide a discussion of the project's consistency with relevant General Plan and Coastal Land Use Plan policies related to water quality. As indicated in that discussion, the proposed project is consistent with meeting the intent of minimizing potential water quality impacts. Therefore, no long-term water quality impacts are anticipated as a result of project implementation.

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)?

No Impact. This project would not result in a significant increase in water demand and the project's potable and non-potable water demands would be met through a connection to the City's domestic water system. The proposed project would actually result in some increased groundwater recharge through its design, which includes a decrease in the amount of impervious surfaces (i.e., a concomitant increase in the amount of pervious surfaces on the site), thereby resulting in increased groundwater recharge. No water wells are proposed or required to meet the water demands of this project. There are no water wells located on or near the site, and since this project would not affect any existing wells or require any new water wells, the project will not result in the lowering of the water table. No significant impacts to groundwater recharge are anticipated and no mitigation measures are required.

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?

Less Than Significant Impact. No stream or river exists on site, which is developed with a Golf Club, clubhouse and related ancillary facilities and the Tennis Club. The portion of the property that is the subject of the proposed improvements encompasses less than 20 acres within five drainage areas. Existing surface runoff generated on the subject property is directed through each drainage area to existing on-site storm drain facilities before entering a 69-inch reinforced concrete pipe (RCP) that extends under Coast Highway and to a discharge point in Newport Harbor west of the site, which has been identified as containing "environmentally sensitive areas" as defined by the 2003 Orange County Drainage Area Management Plan (DAMP) and the Water Quality Control Plans for the Santa Ana Basin. Although on-site soils would be exposed during grading of the property, a variety of Best Management Practices (BMPs) would be implemented both during construction and during the long-term operation of the proposed project. For example, sediment control BMPs will be installed and maintained at all operational storm drain inlets and permanent erosion control BMPs (either physical or vegetation) shall be in place and operational during grading and construction to ensure that on- and off-site erosion is minimized. Furthermore, compliance with applicable building, grading and water quality codes and policies, which are performed during the plan check stage, will ensure that surface flows can be accommodated and water quality protected, including potential erosion. As a result, no significant impacts are anticipated and no mitigation measures are 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?

Less than Significant Impact. As indicated above, project implementation will alter the existing drainage conditions on the site. At the present time, the development area (i.e., less than 20 acres) is divided into five drainage areas. Drainage Areas A and B comprise the existing Golf Clubhouse and parking lot, totaling 11.59 acres. Stormwater runoff occurring in Drainage Area A (7.7 acres) occurs as sheet flow in a southeasterly direction towards a curb and gutter that empties into a catch basin in the southerly corner of the parking lot. The catch basin is connected to an 18-inch RCP pipe, which connects to an existing 24-inch RCP that runs parallel to Coast Highway. Area B, comprised of 3.89 acres that encompass a portion of the grassy golf course, sheet flows towards Irvine Terrace Road and into a cross gutter, where it is directed to two catch basins on Irvine Terrace Road. This flow ultimately connects to the same 24-inch RCP pipe identified for Drainage Area A. The 25-year volume (Q_{25}) for Drainage Areas A and B is 26.56 cubic feet per second (cfs) at elevation 85.0 msl in the 24-inch RCP. The combined flow conveyed in the 24-inch RCP enters an existing 69-inch RCP storm drain, which conveys the runoff to Newport Bay where it is discharged.

Drainage Area C encompasses 5.62 acres within the tennis club area in the easterly portion of the property. Surface runoff within Drainage Area C sheet flows over the tennis courts and onto the parking lot; storm flows then sheet flow over the parking lot, through a curb cut-out and into a drainage sump consisting of an 18-inch square inlet. Flows are conveyed from the inlet, via an 8-inch PVC pipe, which also connects to the 69-inch RCP. The Q_{25} volume generated in Drainage Area C is 14.27 cfs, which enters an existing 8-inch polyvinyl pipe (PVC) and then a 69-inch RCP. The existing 8-inch PVC pipe that was installed during the Corporate Plaza West Extension is deficient (in size) and cannot efficiently convey storm flows under the existing conditions.

The smallest drainage area (Drainage Area D) encompasses 0.19 acre in the southeastern corner of the Balboa Bay Tennis Club. Less than 1 cfs (Q_{25}) is directed south where it enters the parking lot of the adjacent commercial office property and is accommodated in the existing storm runoff facilities of that property.

Drainage Area E encompasses 1.24-acres that remain within in the tennis club (six tennis courts and entry to the parking lot). Runoff generated on the property sheet flows over the existing tennis courts into a concrete v-ditch, into a curb and gutter, and finally into a 12-inch inlet. Flows travel from the inlet, via a 12-inch PVC, which transitions to an 18-inch RCP before entering the 24-inch RCP in Coast Highway. All of the surface flows emanating on the site are conveyed in the existing 69-inch RCP that ultimately discharges into Newport Harbor. A summary of the existing storm flows generated within each of the drainage areas is presented in Table 7.

Table 7

Existing Runoff
Newport Beach Country Club

Sub-Area	Area (In Acres)	Flow (Q) (cfs)
A & B	11.59	26.56
C	5.62	14.27
D	0.19	0.82
E	1.24	4.16
Total	**18.64**	**45.81**

SOUCE: Adams-Streeter Civil Engineers Inc. (July 10, 2009)

The proposed development is also divided into five drainage areas; however, these areas have been reconfigured based on the grading associated with the project design. Drainage Areas A and B (11.68 acres) comprise nearly the same areas as previously identified; however, Drainage Area A has decreased in size to 6.59 acres and Drainage Area B has increased in size to 5.09 acres. Storm flows emanating from Drainage Areas A and B are proposed to be captured using a storm system comprised of catch basins and pipes ranging in size from 8 inches to 24 inches. The proposed storm drain system will be installed within the site's parking lot and within the site's entry westerly parkway and will connect to the existing 24-inch RCP storm drain that connects to the existing 69-inch RCP storm drain. The post-development runoff volume (Q_{25}) is estimated to be 27.82 cfs. The existing 24-inch storm drain is not adequate to accept and convey the existing or proposed storm flows. Therefore, this facility will be upsized.

Drainage Area C will be expanded to encompass 6.16 acres, including some of the existing tennis courts, a new center court, Tennis Clubhouse, pool, The Bungalows, and The Villas along with interior street and paths. Storm flows for Area C will be captured using a storm drain system comprised of catch basins and pipes ranging in size from eight to 30 inches. Because inadequate storm drain stubs were provided to the project area (i.e., one 12-inch PVC pipe and one 8-inch PVC pipe), a 30-inch RCP will be constructed in the parking lot of the adjacent property. This Drainage Area will generate a Q_{25} volume of 20.74 cfs.

Drainage Area D encompasses 0.63 acre in the southeastern corner of the tennis facility. This area will consist of the newly designed and/or reconfigured parking lot for the Tennis Club. Storm flows emanating in Drainage Area D will sheet flow in a southerly direction to the existing parking lot located on the adjacent property. Once in the parking lot, it will sheet flow into existing catch basins and into the existing 69-inch RCP. This drainage area will generate a Q_{25} of 2.64 cfs.

Drainage Area E comprises the smallest of the five drainage areas and is located near the southwestern limits of the tennis facility. The 0.19-acre area will generate a storm flow volume of 0.81 cfs (Q_{25}), which would travel to the southwest corner of the site where it would enter a catch basin that will connect to an existing 8-inch PVC pipe that would also connect to the 69-inch RCP south of the subject property. Table 8 provides a summary of the post-development runoff conditions.

Table 8

Post-Development Runoff
Newport Beach Country Club

Sub-Area	Area (In Acres)	Flow (Q) (cfs)
A & B	11.68	27.82
C	6.16	20.74
D	0.63	2.64
E	0.19	0.81
Total	**18.66**	**52.01**

SOUCE: Adams-Streeter Civil Engineers Inc. (July 10, 2009)

Project implementation would result in an increase of approximately 13.5 percent in storm surface runoff volume. Table 9 provides a comparison of the pre- and post-development runoff characteristics.

Table 9

Pre- and Post Development Runoff Comparison
Newport Beach Country Club

Sub-Area	Existing Runoff (Q_{25} cfs)	Developed Runoff (Q_{25} cfs)	Difference (Q_{25} cfs)
A & B	26.56	27.82	1.26
C	14.27	20.74	6.47
D	0.82	2.64	1.82
E	4.16	0.81	-3.35
Total	**45.81**	**52.01**	**6.2**

SOUCE: Adams-Streeter Civil Engineers Inc. (July 10, 2009)

Although the land use for the proposed project has a lower runoff coefficient than that under existing conditions, the overall flow volumes have increased as a result of the lower time of concentration that occurs when the storm flows are routed in a pipe versus sheet flow under existing conditions. As indicated above, project implementation will result in an increase of 6.2 cfs entering the 69-inch RCP that will convey the storm flows to Newport Harbor. This increase in runoff equates to a 1.3 percent increase in the existing 462 cfs that currently flows in this facility. Because the time of concentration within the 69-inch RCP is much greater than the site's contribution in flow, the increased runoff generated by the proposed project would be negligible and, therefore, would not have a significant impact on the existing storm drain facilities.

The site will be graded and designed to facilitate post-development storm flows. Therefore, no significant impacts are anticipated and no mitigation measures are required.

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?

Less than Significant Impact. Although project implementation will result in a decrease in impervious surfaces on the site, additional surface runoff would be generated (refer to the previous discussion in Section IX.d). However, the post-development impervious surfaces would be reduced by approximately 2,300 square feet, which would not generate a significant amount of stormwater runoff (i.e., an increase

of 6.2 cfs). The existing storm drainage collection and conveyance facilities within the project area (i.e., 18- and 24-inch pipes previously described) will be upgraded as determined necessary to provide adequate capacity to accommodate the proposed project. No significant impacts are anticipated and no mitigation measures are required.

f) Would the project otherwise substantially degrade water quality?

Less than Significant Impact. As indicated previously, Newport Bay is listed as an "impaired" water body under Section 303(d) of the Clean Water Act, with respect to metals, pesticides and priority organics. Changes in surface runoff are anticipated as a result of the development of the subject property as proposed that could result in potential impacts to water quality. However, the project will be designed to comply with all relevant building, grading and water quality codes and policies to ensure that there will not be an adverse effect on water quality, either during construction or during the operational life of the project. The applicant will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP), which will identify both structural and non-structural features intended to minimize erosion and sedimentation as well as other water quality impacts that would occur during the construction phase. In addition, a Conceptual WQMP identifies several measures that would minimize potential water quality impacts. Final plan check will include the preparation of an adequate drainage and erosion control plan that must be found to meet applicable standards. Therefore, no significant impacts are anticipated and no mitigation measures are 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?

No Impact. The subject property is not located within the 100-year flood plain as delineated on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA) for the City of Newport Beach. The site is located in Zone X (Other Areas), which is classified by FEMA as "Areas determined to be outside the 0.2 percent annual chance floodplain." During a 100-year storm, the site would be protected from flooding, as the water surface for all street flows would remain within the gutter and street; average depth of flow for the entire site is less than one foot. Secondary overflow for the site is provided by outletting through the site's interior streets to the exit on Coast Highway. As a result, no homes would be placed within the 100-year flood plain and no significant impacts would occur.

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

No Impact. No residential structures are proposed to be located within the 100-year flood zone. Refer to the response to Section IX.g.

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?

No Impact. As indicated above, the project site is not located within a flood hazard area or within an area subject to flooding due to dam or levee failure. Figure S3 (Flood Hazards) in the Newport Beach Safety Element indicates that in the event of failure of either the San Joaquin Reservoir or the Big Canyon Reservoir, the site would not be subject to flooding. Therefore, project implementation will not result in a potentially significant impact; no mitigation measures are required.

j) Would the project be subject to inundation by seiche, tsunami, or mudflow?

Less than Significant Impact. The subject property is located inland of Coast Highway and is not within the area of influence of Newport Harbor area. Tsunamis (i.e., seismic sea waves) are generated on offshore faults by movement that is primarily vertical in nature. The subject property is not within a Tsunami Hazard Zone illustrated on Figure S1 (Coastal Hazards) in the City's Safety Element. According to that figure, in the event of a tsunami, surge waves would threaten the lower elevations along the

Newport Beach coastline and in Newport Bay; however, the site is not subject to the effects of a tsunami. No significant impacts are anticipated and no mitigation measures are required.

Seiche is defined as a standing wave oscillation effect generated in a closed or semi-closed body of water caused by wind, tidal current, and earthquake. Seiche potential is highest in large, deep, steep-sided reservoirs or water bodies. The nearest such water bodies include San Joaquin Reservoir, which is located approximately two miles northeast of the site and Big Canyon Reservoir, located approximately one mile east-northeast of the subject property. The subject property is located well beyond the area that could potentially be inundated as a result of a seiche. In addition, Newport Bay, which is located approximately one-half mile east of the project area, lacks significant potential for damaging seiche because it is very shallow. As a result, no significant impacts are anticipated and no mitigation measures are required.

k) Would the project result in significant alteration of receiving water quality during or following construction?

Less than Significant Impact. Refer to responses to Section IX.a and Section IX.f.

l) Would the project result in potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?

Less than Significant Impact. Stormwater discharge from the site will be virtually the same as the stormwater currently generated on the site, which are those associated with the residential and recreation uses. In addition, the proposed residential and bungalows would also contribute similar stormwater pollutants that may include detergents, fertilizers, pesticides, automobile hydrocarbons, etc., typically associated with those uses. Although some temporary impacts associated with construction of the proposed structures may occur (refer to Sections IX.a through IX.f), no new long-term outdoor storage, maintenance, fueling or work areas are proposed. The golf cart storage and maintenance areas, which are currently located above grade, partially open on one side, are proposed to be fully enclosed in the lower level of the new clubhouse. Project implementation will result in improvements to the stormwater discharges associated with site development. The project will be designed to comply with all requisite codes and policies prescribed by the City of Newport Beach to ensure that stormwater impacts during or after construction are minimized or eliminated to the maximum extent possible. For example, the City's standard practice is to require street sweeping as a construction control measure, rather than washing down the street surface, to avoid runoff of construction wastes, sediment and debris into the storm drain system or the bay. Other construction BMPs would include those that address sediment control and waste management and materials pollution control. Little or no pollution control measures exist within the property, which was developed before the more stringent regulatory controls were enacted. As a result, with the implementation of such structural and non-structural BMPs as well as the project's compliance with the requirements imposed by the City, no significant impacts are anticipated and no additional mitigation measures are required.

m) Would the project result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?

Less than Significant Impact. Refer to responses to Section IX.a and Section IX.f.

n) Would the project create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?

Less than Significant Impact. Project implementation will result in a decrease in impervious surfaces on the site. It must be noted that even though the land use for the proposed development has a lower runoff coefficient than the existing condition, the overall flow volumes have increased. This is due to the lower time of concentration that occurs when the storm flows are routed in a pipe versus the current condition of sheet flow. However, the site would be graded in order to ensure that post-development

runoff is minimized and, further, is directed to existing storm drain facilities that have adequate capacity to accommodate the increase flows. As a result, this project would not result in adverse impacts due to changes in the flow velocity or volume of storm water runoff.

o) Would the project create significant increases in erosion of the project site or surrounding areas?

Less than Significant Impact. See responses to IX.a through IX.f. As previously indicated, part of the final plan check review includes the preparation of an adequate drainage and erosion control plan that must be found to meet applicable City standards. Implementation of this plan will ensure that potentially significant increases in erosion resulting from the proposed project will not occur. No mitigation measures are required.

Mitigation Measures

The applicant has prepared an NPDES Technical Study that identifies a range of BMPs and related water quality features to ensure that water quality impacts associated with the proposed project are reduced to an acceptable level. Implementation of BMPs that will be refined and included in the Stormwater Pollution Prevention Plan (SWPPP) will ensure that construction impacts are minimized. Similarly, BMPs will also be refined and incorporated into the project design to avoid post-construction impacts to water quality. Therefore, no significant impacts are anticipated and no mitigation measures are required.

SC-16 Prior to issuance of a grading permit, the project applicant shall be required to submit a notice of intent (NOI) with the appropriate fees to the State Water Quality Resources Control Board for coverage of such future projects under the General Construction Activity Storm Water Runoff Permit prior to initiation of construction activity at a future site. As required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish BMPs in order to reduce sedimentation and erosion.

SC-17 Prior to issuance of a grading permit, the project applicant shall prepare a Water Quality Management Plan (WQMP) for the project and submit the WQMP to the City of Newport Beach for approval. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used to control predictable pollutant runoff, including flow/volume-based measures to treat the "first flush." The WQMP shall identify at a minimum the routine structural and non-structural measures specified in the Countywide NPDES Drainage Area Master Plan (DAMP), which details implementation of the BMPs whenever they are applicable to a project, the assignment of long-term maintenance responsibilities, and shall reference the locations of structural BMPs.

SC-18 Prior to issuance of a grading permit, the project applicant shall prepare a Storm Water Pollution and Prevention Plan (SWPPP). The SWPPP will establish BMPs in order to reduce sedimentation and erosion and prevent construction pollutants from leaving the site. The project shall also incorporate all monitoring elements as required in the General Construction Permit. The project applicant shall also develop an erosion and sediment control plan to be reviewed and approved by the City of Newport Beach prior to issuance of grading permit.

SC-19 Future site grading and construction shall comply with the drainage controls imposed by the applicable building code requirements prescribed by the City of Newport Beach.

X. LAND USE AND PLANNING

a) Would the project divide an established community?

No Impact. The 145-acre site is developed with golf and tennis facilities. The proposed project includes the construction of a larger Golf Clubhouse and modifications to the existing Tennis Club on the subject property. As indicated previously, the area surrounding the subject property is entirely developed with mixed-use development, including residential, professional office, commercial and governmental land

uses. Development of the site as proposed would not directly affect adjacent properties because it is consistent with the applicable development standards and requirements for site development as prescribed in the proposed Planned Community District development regulations. In particular, project implementation does not include features that would physically divide or otherwise adversely affect or change an established community (e.g., roadways, flood control channels, etc.).

The proposed Golf Clubhouse is in keeping with the intensity of development and existing character in the project environs. No significant impacts will occur and no mitigation measures are required.

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

Less than Significant Impact. The Newport Beach General Plan, the Coastal Land Use Plan and the Newport Beach Zoning Code contain land use plans, policies and regulations of concern with respect to avoiding or mitigating an environmental effect. Consistency of the proposed project with applicable provisions and/or policies of the relevant Elements of the General Plan are addressed in Table 10.

Table 10

General Plan Policy Analysis
Newport Beach Country Club

Policy No.	General Plan Policy[1]	Consistency Analysis
	Land Use Element	
LU 1.1	Maintain and enhance the beneficial and unique character of the different neighborhoods, business districts, and harbor that together identify Newport Beach. Locate and design development to reflect Newport Beach's topography, architectural diversity, and view sheds.	The proposed project includes an adoption of the PC District regulations, which will guide development occurring within the project site. The development standards address building height, setbacks, landscaping, architectural character, etc., and are intended to ensure that the City's unique character, which reflects both land use and architectural diversity, is maintained.
LU 1.2	While recognizing the qualities that uniquely define its neighborhoods and districts, promote the identity of the entire City that differentiates it as a special place within the Southern California region.	The area in which the site is located is characterized by a variety of residential, commercial, recreation, and public land uses that reflect a range of densities and a variety of architectural styles, which contribute to the unique character of the City. The intensity of the proposed project (i.e., larger Golf Club clubhouse and redeveloped tennis center) and architectural character are compatible with the variety of densities and styles within the area, which is consistent with the "identity" of the City. The architectural character of the proposed clubhouse and related tennis center development, including The Bungalows and The Villas, is consistent with the City's desire to differentiate Newport Beach from other coastal cities.
LU 3.2	Enhance existing neighborhoods, districts, and corridors, allowing for reuse and infill with uses that are complementary in type, form, scale, and character. Changes in use and/or density/intensity should be considered only in those areas that are economically under performing, are necessary to accommodate Newport Beach's share of projected regional population growth, improve the relationship and reduce commuting distance between home and jobs, or enhance the values that distinguish Newport Beach as a special place to live for its residents. The scale of growth and new development shall be coordinated with the provision of adequate infrastructure and public services, including standards for acceptable traffic level of service.	The character of the proposed Golf Club, Tennis Club, The Bungalows, and The Villas is compatible with the existing land uses and development intensities in the project area. Additionally, the proposed land uses are allowed under the existing General Plan. The project has been designed to be compatible with the existing residential, commercial, and open space/recreation that exists in the vicinity of the project site. In addition, the area in which the project is located is adequately served by existing infrastructure, including circulation, sewer, water, and storm drainage systems. As a result, project implementation will not adversely affect those systems or the provision of adequate service to nearby development.
LU 4.1	Accommodate land use development consistent with the Land Use Plan.	The uses proposed by the applicant are consistent with the General Plan Land Use Element (i.e., land use

Policy No.	General Plan Policy[1]	Consistency Analysis
		designation), which designates the golf course site PR (Parks and Recreation) and the tennis site MU-H3/PR. The proposed Golf Clubhouse is within the 35,000 square foot allowable development limit permitted in Anomaly 74 of the Land Use Element. The tennis facility is located in Anomaly 46, which allocates 24 tennis courts with residential permitted in accordance with the MU-H3 designation. Per LU 4.3 Transfer of Development Rights, (Page 3-20.d of the General Plan) density transfers are allowed within the Newport Center area (refer to LU 6.14.3). Based on this policy, the transfer of 27 hotel units from Anomaly 43 to Anomaly 46 (i.e., subject property) may be permitted, subject to the approval of the City with the finding that the transfer is consistent with the intent of the General Plan and that the transfer will not result in any adverse traffic impacts. In addition to the Transfer of Development Intensity, within Newport Center there are remaining 20 single-family units allocated for the Newport Center to accommodate the 5 single-family homes needed for The Villas. The proposed land uses are consistent with the land use designation prescribed for the site as well as the TDR and residential allocation within Newport Center.
LU 4.3	Permit the transfer of development rights from a property to one or more other properties when: a. The donor and receiver sites are within the same Statistical Area. b. The reduced density/intensity on the donor site provides benefits to the City such as, but not limited to, the (1) provision of extraordinary open space, public visual corridor(s), parking or other amenities (2) preservation of an historic building or property or natural landscapes; (3) improvement of the area's sale and development character; (4) consolidation of lots to achieve a better architectural design than could be achieved without lot consolidation; and/or (5) reduction of local vehicle trips and traffic congestion. c. The increment of growth transferred to the receiver site complements and is in scale with surrounding development, complies with community character and design policies contained in this plan, and does not materially degrade local traffic conditions and environmental quality. d. Transfer of Development Rights in Newport Center is governed by Policy 6.14.3.	Refer to Policy 6.14.3.
LU 5.1.2	Require that the height of development in nonresidential and higher density residential areas transition as it nears lower density residential areas to minimize conflicts at the interface between the different types of development.	Although the site is not located adjacent to lower density residential development (e.g., single-family detached), the project has been designed to respect the proximity of the existing residential development adjacent to the project site. Specifically, single-family residential development is proposed in the area nearest to the existing residential development to buffer the private recreation uses of the Tennis Clubhouse. In addition, the proposed PC District text and regulations prescribe maximum building heights, setback requirements, etc., for each of the development components to ensure land use compatibility. The maximum building height has been established at 50 feet. The height of the proposed Golf Clubhouse is proposed to vary but would not exceed the maximum 50-foot height limit prescribed for that use.
LU 5.3.3	Require that properties developed with a mix of residential and non-residential uses be designed to achieve high levels of architectural quality in accordance with Policies 5.1.8 and 5.2.2 and planned to assure compatibility among the uses and provide adequate circulation and parking. Residential uses should be seamlessly integrated with non-residential uses through architecture, pedestrian walkways, and	As illustrated in the proposed site plan, the proposed project includes a new golf clubhouse, tennis clubhouse and related amenities, twenty-seven (27) short-term visitor-serving units (Bungalows). And five (5) single-family residential dwelling units. The proposed project provides adequate parking for each of the proposed uses. Vehicular and pedestrian circulation has been designed to accommodate both residents of the Villas, as well as

Policy No.	General Plan Policy[1]	Consistency Analysis
	landscape. They should not be completely isolated by walls or other design elements.	guests and members of the Golf Club, and Tennis Club/spa and Bungalows. The architectural character of the uses is defined in the PC District Regulations to ensure that compatibility between the proposed uses and the nearby areas is maintained.
LU 5.3.4	Require that sufficient acreage be developed for an individual use located in a district containing a mix of residential and non-residential uses to prevent fragmentation and assure each use's viability, quality, and compatibility with adjoining uses.	As indicated above, each of the uses has been designed to complement the overall development proposed by the applicant. The three distinct uses are connected via the vehicular and pedestrian circulation system, including sidewalks and pedestrian pathways. Land use compatibility is achieved through a common landscape theme and design guidelines in the PC District Regulations to ensure that the architectural integrity of the project is not compromised.
LU 6.14.2	Provide the opportunity for limited residential, hotel, and office development in accordance with the limits specified by Tables LU1 and LU2.	The project proposes a mix of land uses, including single-family residential, golf and tennis facilities and visitor-serving commercial (i.e., "Bungalows") uses. These uses are permitted in Table LU1. Residential development is permitted in Anomaly 46, as reflected in Table LU2.
LU 6.14.3	Development rights may be transferred within Newport Center, subject to the approval of the City with the finding that the transfer is consistent with the intent of the General Plan and that the transfer will not result in any adverse traffic impacts.	Project implementation includes the transfer of 27 hotel units from Anomaly No. 46 to the subject property. As indicated in the analysis of traffic, the proposed project would result in the generation of 221 daily vehicle trips for the 27 bungalows. Project implementation will result in the generation of 1,183 daily vehicle trips, including those generated by the bungalows (221 trips), which equates to a net reduction in not only daily trips (389), but also a.m. and p.m. peak hour trips (35) when compared to the existing land uses. The reduction of vehicle trips anticipated as a result of the proposed project will not result in any significant impacts to the existing traffic and circulation conditions in the project area. Therefore, the proposed project would not result in any significant traffic impacts. In addition, implementation of the proposed project is consistent with the intent of the Newport Beach General Plan, as reflected in this analysis. As indicated above, the project has been designed to be consistent with the surrounding land uses and promotes recreation and tourism. The project is consistent with the relevant policies in the Land Use and other elements of the General Plan.
LU 6.14.6	Encourage that pedestrian access and connections among uses within the district be improved with additional walkways and streetscape amenities concurrent with the development of expanded and new uses.	As indicated on the site plan, the proposed project provides for both pedestrian and vehicular access between the Golf and Tennis facilities. Sidewalks and pedestrian pathways are incorporated into the circulation system that are intended to accommodate pedestrians utilizing the golf and tennis/spa facilities as well as the future residents of the proposed Villas. The landscape plan includes plants materials that are intended to reflect and complement the existing character within the project area.
LU 6.14.8	Require the execution of Development Agreements for residential and mixed-use development projects that use the residential 450 units identified in Table LU2 (Anomaly Locations). Development Agreements shall define the improvements and benefits to be contributed by the developer in exchange for the City's commitment for the number, density, and location of the housing units.	The applicant has proposed a Development Agreement, which must comply with the provisions of this policy, including the identification of improvements and benefits resulting from implementation of the proposed project.
Housing Element		
H 1.1	Support all reasonable efforts to preserve, maintain, and improve availability and quality of existing housing and residential neighborhoods, and ensure full utilization of existing City housing resources for as long into the future as physically and economically possible.	The project site does not include any existing housing. However, the applicant is proposing five (5) semi-custom, single-family residential dwelling units on the subject property, which will improve the availability and quality of housing in the City. These dwelling units will supplement the City's housing supply.

Policy No.	General Plan Policy[1]	Consistency Analysis
	Historical Resources Element	
HR 2.1	Require that, in accordance with CEQA, new development protect and preserve paleontological and archaeological resources from destruction, and avoid and mitigate impacts to such resources. Through planning policies and permit conditions, ensure the preservation of significant archaeological and paleontological resources and require that the impact caused by any development be mitigated in accordance with CEQA.	Although it is unlikely that archaeological and/or paleontological resources would be encountered during grading and/or construction, the City requires that a certified archaeological/paleontological monitor be available during grading to ensure that if such resources are encountered, grading activities can be diverted in order to evaluate the resources and recommend appropriate measures to protect and/or preserve them.
	Circulation Element	
CE 7.1.1	Require that new development provide adequate, convenient parking for residents, guest, business patrons, and visitors.	The proposed project provides adequate parking as demonstrated in the Traffic and Parking Evaluation prepared by Kimley-Horn and Associates and prescribed in the PC District regulations for the project. The project will meet the anticipated parking demand on-site with 398 parking spaces. In addition to the parking proposed to accommodate the proposed uses, additional parking within two off-site parking easement areas encompass over 554 additional parking spaces that can be used for special events.
CE 7.1.8	Site and design new development to avoid use of parking configurations or management programs that are difficult to maintain and enforce.	As indicated above, the on-site parking provided totals 398 parking spaces, including 28 spaces that are allocated to the Tennis Clubhouse (28 required), 50 parking spaces for the Bungalows/spa (49 required), and 300 parking spaces for the Golf Club (244 required). In addition, 20 parking spaces are also proposed to accommodate the 5 Villas (20 required).
	Recreation Element	
R 1.1	Require developers of new residential subdivisions to provide parklands at five acres per 1,000 persons, as stated in the City's Park Dedication Fee Ordinance, or to contribute in-lieu fees for the development of public recreation facilities meeting demands generated by the development's resident population, as required in the City's Park Dedications Fee Ordinance.	The proposed project includes the development of five semi-custom, single-family residential dwelling units. The residential component of the proposed project will be subject to the City's Park Dedication Fee Ordinance. It is anticipated that the applicant will be required to pay the applicable in-lieu fee.
	Natural Resources Element	
NR 1.2	Establish and actively promote use of water conserving devices and practices in both new construction and major alterations and additions to existing buildings. This can include the use of rainwater capture, storage, and reuse facilities.	Water conservation measures will be required to be incorporated into the proposed project as prescribed in Chapter 14.16 (Water Conservation and Supply Level Regulations) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. In addition, the proposed hand car wash will comply with Chapter 14.36 (Water Quality) to ensure that surface runoff associated with that use does not result in the degradation of either surface or groundwater. Finally, the BMPs are intended to meet the requirements prescribed in Chapter 14.36.
NR 3.4	Require all development to comply with the regulations under the City's municipal separate storm drain system permit under the National Pollutant Discharge Elimination System (NPDES).	The project applicant will be required to comply with the NPDES requirements established by the City, including the preparation of a SWPPP to address construction activities and a WQMP for long-term operations of the project.
NR 3.5	Require that development does not degrade natural water bodies.	As indicated above, the proposed project will implement BMPs to improve the quality of both construction-related and long-term runoff emanating from the site prior to their discharge into Newport Harbor.
NR 3.9	Require new development applications to include a Water Quality Management Plan (WQMP) to minimize runoff from rainfall events during construction and post-construction.	Refer to Response to Policy No. NR 3.4.
NR 3.11	Include site design and source control BMPs in all developments. When the combination of site design and source control BMPs are not sufficient to protect	The proposed project complies with the requirement to prepare a SWPPP and WQMP to address both construction and post-development water quality impacts.

Policy No.	General Plan Policy[1]	Consistency Analysis
	water quality as required by the NPDES, structural treatment BMPs will be implemented along with site design and source control measures.	Both site design and structural BMPs will be incorporated into the project to ensure that surface flows emanating from the subject property are treated prior to their discharge into Newport Harbor. The SWPPP and WQMP will be sufficient to protect water quality as prescribed by the NPDES requirements of the City.
NR 4.4	Require grading/erosion control plans with structural BMPs that prevent or minimize erosion during and after construction for development on steep slopes, graded, or disturbed area.	As required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish both structural and non-structural BMPs in order to reduce sedimentation and erosion during the construction phase. These measures will be incorporated in the grading/erosion control plan (refer to SC-10) submitted to the City of Newport Beach. In addition, the applicant has prepared a WQMP to address post-development water quality impacts.
NR 8.1	Require developers to use and operate construction equipment, use building materials and paints, and control dust created by construction activities to minimize air pollutants.	The proposed project will comply with all South Coast AQMD rules and requisite local, state and federal requirements to reduce air pollutant emissions during construction.
NR 18.1	Require new development to protect and preserve paleontological and archaeological resources from destruction, and avoid and minimize impacts to such resources in accordance with the requirements of CEQA. Through planning policies and permit conditions, ensure the preservation of significant archaeological and paleontological resources and require that the impact caused by any development be mitigated in accordance with CEQA.	Refer to Response to Policy No. HR 2.1.
NR 18.3	Notify cultural organizations, including Native American organizations, of proposed development that have the potential to adversely impact cultural resources. Allow qualified representative of such groups to monitor grading and/or excavation of development sites.	Because implementation of the proposed project requires the approval of an amendment to the Land Use Element of the Newport General Plan, it is subject to the provisions of SB 18, which requires consultation with Native American representatives before adopting or amending a general plan. The City has complied with the requirements of SB 18 by submitting a request to the Native American Heritage Commission (NAHC). In addition, the City also sent letters to the Native American representatives, informing each of the proposed project. However, no response was received by the City from any of the Native American representations requesting consultation within the 90-day statutory period.
NR 18.4	Require new development, where on site preservation and avoidance are not feasible, to donate scientifically valuable paleontological or archaeological materials to a responsible public or private institution with a suitable repository, located within Newport Beach or Orange county, whenever possible.	Refer to Response to Policy No. HR 2.1.
NR 20.1	Protect and, where feasible, enhance significant scenic and visual resources that include open space, mountains, canyons, ridges, ocean, and harbor from public vantage points, as shown in Figure NR3.	Project implementation will not result in any significant visual impacts to the segment of Newport Center Drive north of Farallon, which is designated as a Coastal View Road, or to the Public View Point identified in Irvine Terrace Park located south of East Coast Highway. Views from vantages along Newport Center Drive will not be significantly altered as a result of project implementation. The development would not be visible from this Coastal View Road because of the landscaping that exists along the roadway, which blocks and/or filters views to the subject property.
NR 20.3	Protect and enhance public view corridors from the following roadway segments (shown in Figure NR3), and other locations may be identified in the future (Newport Center Drive).	Refer to Response to Policy No. NR 20.1.
NR 22.1	Continue to regulate the visual and physical mass of structures consistent with the unique character and visual scale of Newport Beach.	The building mass and architectural character of the proposed project will be regulated through the PC District regulations that have been proposed. The City will ensure that these regulations do not compromise the unique aesthetic character of the City.

Policy No.	General Plan Policy[1]	Consistency Analysis
	Safety Element	
S 4.7	Conduct further seismic studies for new development in areas where potential active faults may occur.	The proposed structures will be designed in accordance with current adopted codes and regulations, including the California Building Code, which prescribe the design standards for new development to protect life and property. In addition, site and structural design recommendations are also included in the Preliminary Geotechnical Report prepared that will be incorporated into the proposed project.
	Noise Element	
N 1.1	Require that all proposed projects are compatible with the noise environment through use of Table N2, and enforce the interior and exterior noise standards shown in Table N3.	The proposed uses, including the Golf Club and Tennis Club, the Bungalows, and the villas are consistent with the noise parameters prescribed in Table N2. The residential uses will not be subject to exterior noise levels that exceed 65 dBA CNEL and the non-residential uses are also consistent with the land use noise compatibility matrix based on noise levels that to not exceed 75 dBA CNEL.
N 1.4	Require that applicants of residential portions of mixed-use projects and high density residential developments in urban areas (such as the Airport Area and Newport Center) demonstrate that the design of the structure will adequately isolate noise between adjacent uses and units (common floor/ceilings) in accordance with the California Building Code.	As indicated in the noise analysis prepared for the proposed project (refer to Section XII), project activities will entail the continuation of long standing outdoor golf and tennis uses and limited indoor activities. Outdoor recreational activities at the Country Club represent a continuation of existing activities, which are compatible with the nearby residential and non-residential development in the project environs. Although some noise is associated with tennis, in particular, it is not so intrusive that it would be disruptive or incompatible with the existing uses. Furthermore, the proposed residential component (i.e., the "Villas"), is not located adjacent to Coast Highway or other high volumes arterials that would generate noise levels that exceed exterior and/or interior standards. Therefore, no significant long-term noise impacts would occur.
N 1.6	Encourage new mixed-use developments to site loading areas, parking lots, driveways, trash enclosures, mechanical equipment, and other noise sources away from the residential portion of the development.	No loading docks or other high noise generating features are located in proximity to the proposed "Villas." A mitigation measure requires that heating, venting, and air conditioning (HVAC) equipment in or adjacent to residential areas must not exceed applicable noise levels as required by the City of Newport Beach.
N 1.8	Require the employment of noise mitigation measures for existing sensitive uses when a significant noise impact is identified. A significant noise impact occurs when there is an increase in the ambient CNEL produced by new development impacting noise sensitive uses.	Noise mitigation have been prescribed to ensure that construction noise impacts are reduced to a less than significant level. In addition, proper siting of HVAC equipment will reduce operational noise levels in the residential area in compliance with this policy.
N 4.1	Enforce interior and exterior noise standards outlined in Table N3, and in the City's Municipal Code to ensure that sensitive noise receptors are not exposed to excessive noise levels from stationary noise sources, such as heating, ventilation, and air conditioning equipment.	The noise sensitive receptors (i.e., residents of the proposed Villas) would be protected from excessive interior and exterior noise levels through compliance with the noise standards adopted by the City and presented in Table N3 of the Noise Element. Both interior and exterior noise levels will comply with the adopted standards.
N 4.6	Enforce the Noise Ordinance noise limits and limits on hours of maintenance or construction activity in or adjacent to residential areas, including noise that results from in-home hobby or work-related activities.	Construction hours will comply with the limits established by the City of Newport Beach and prescribed in the Noise Ordinance. In addition, operational noise associated with the proposed tennis and golf facilities would also be regulated by the City's Noise Ordinance.
N 5.1	Enforce the limits on hours of construction activity.	Construction hours will be limited to those stipulated in the City's Noise Ordinance, which will be strictly enforced by the City of Newport Beach.

[1]Because the project is not located within the harbor area, policies articulated in the Harbor and Bay Element are not applicable.

Coastal Land Use Plan

As previously indicated, the subject property is located in the Coastal Zone delineated within the City of Newport Beach and is, therefore, subject to the adopted policies contained within the adopted Coastal Land Use Plan. Consistency with the applicable policies of that CLUP are presented in Table 11.

Table 11

Coastal Land Use Plan Policy Analysis
Newport Beach Country Club

Policy No.	CLUP Policy	Consistency Analysis
	Land Use	
2.1.2-1	Land uses and new development in the coastal zone shall be consistent with the Coastal Land Use Plan Map and all applicable LCP policies and regulations.	The proposed project is consistent with the land use designation on the adopted Coastal Land Use Plan, which designates the golf course site OS (Open Space) and the tennis site MU-H/PR (Mixed Use Horizontal/Parks & Recreation). The Open Space designation allows golf courses. The MU-H/PR designation allows horizontally-distributed mix of uses, which may include general or neighborhood commercial, commercial offices, multi-family residential, visitor-serving and marine-related uses, buildings that vertically integrate residential with commercial uses, and active public or private recreational uses, including parks, golf courses, marina support facilities, aquatic facilities, tennis clubs and courts, private recreation, and similar facilities. In addition, the project addresses the relevant policies related to development of the site and the protection of coastal resources identified in the CLUP as discussed in this table.
	General Development Policies	
2.2.1-1	Continue to allow redevelopment and infill development within and adjacent to the existing developed areas in the coastal zone subject to the density and intensity limits and resource protection policies of the Coastal Land Use Plan.	Project implementation will result in some intensification of the development that exists within the limits of the Planned Community. As previously indicated, the proposed project does not exceed the intensity of development allocated in the General Plan for Anomaly No. 46 and Anomaly No. 74. Because the proposed project would result in the redevelopment of the existing uses, project implementation would not adversely affect any coastal resources and development is consistent with applicable coastal resource policies.
2.2.1-2	Require new development be located in areas with adequate public services or in areas that are capable of having public services extended or expanded without significant adverse effects on coastal resources.	The proposed project is located in an area of the City of Newport Beach that is adequately served by a range of public services and utilities, including police and fire protection; circulation; sewer, water and storm drains; and electricity and natural gas. Adequate service will continue to be provided to the proposed uses. The provision of those public services and utilities will not result in any significant adverse effects on coastal resources.
	Residential Development	
2.7-1	Continue to maintain appropriate setbacks and density, floor area, and height limits for residential development to protect the character of established neighborhoods and to protect coastal access and coastal resources.	The proposed PC District regulations prescribe the development standards for both residential and non-residential land uses proposed for the project. The maximum building height for the proposed single-family residential dwelling units (i.e., 5 units), which are located in the vicinity of the existing residential development, will range from 21 feet for Villa A to approximately 35 feet for Villa D. Similar to building height, the front, rear, and side yard setbacks will vary, depending on the location and relationship of The Villas to each other and to existing residential development to the northeast, which are two and three stories in height.

Policy No.	CLUP Policy	Consistency Analysis
	Hazards and Protective Devices	
2.8.7-2	Require new development to provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner in order to minimize hazards resulting from increased runoff, erosion and other hydrologic impacts to streams.	The project site is not located in the vicinity of a stream. However, as required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish both structural and non-structural BMPs in order to reduce sedimentation and erosion during the construction phase. These measures will be incorporated in the grading/erosion control plans submitted to the City of Newport Beach.
2.8.7-3	Require applications for new development, where applicable (i.e., in areas of known or potential geologic or seismic hazards), to include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed development and that the development will be safe from geologic hazard. Require such reports to be signed by a licensed Certified Engineering Geologist or Geotechnical Engineer and subject to review and approval by the City.	With the exception of the potential effects of moderate to strong seismic shaking, the subject property is not located in an area characterized by potential coastal hazards. Preliminary geotechnical design parameters for the proposed project have been recommended based on subsurface exploration and laboratory testing of the site soils. The proposed structures will be constructed based on those design parameters.
	Transportation	
2.9.3-1	Site and design new development to avoid use of parking configurations or parking management programs that are difficult to maintain and enforce.	The proposed project includes adequate parking to accommodate all of the proposed uses, including the Golf Club, Tennis Clubhouse, the Bungalows, and The Villas. A total of 398 parking spaces is provided in the plan, including 28 parking spaces allocated to the Tennis Club (28 required), 50 parking spaces for The Bungalows/spa (49 required), and 300 parking spaces for the Golf Club (244 required). In addition, 20 parking spaces are proposed to accommodate the five Villas (20 required). The parking plan provides for a surplus of 57 parking spaces based on the proposed PC District parking requirements. In addition to the on-site parking provided, the site plan indicates that the an existing parking easement in favor of the project site provides access to an additional 554 parking spaces in the evenings and on weekends and holidays, if needed for parking overflow during tennis and golf events. However, such events are subject to a "special event permit," must be approved by the City. In addition to other requirements, it must be shown that adequate parking can be provided for such activities.
2.9.3-2	Continue to require new development to provide off-street parking sufficient to serve the approved use in order to minimize impacts to public on-street and off-street parking available for coastal access.	The proposed project provides adequate parking as demonstrated in the Traffic and Parking Evaluation prepared by Kimley-Horn and Associates and reflected in the PC district regulations. A surplus of 57 parking spaces is available on-site. In addition, off-site parking is also available for special events. An existing off-site Parking Agreement will provide for an additional 554 parking spaces to accommodate the proposed project. No impacts to coastal access are anticipated.
2.9.3-3	Require that all proposed development maintain and enhance public access to the coast by providing adequate parking pursuant to the off-street parking regulations of the Zoning Code in effect as of October 13, 2005.	Refer to Policy 2.9.3-1.
2.9.3-5	Continue to require off-street parking in new development to have adequate dimensions, clearances, and access to insure their use.	The parking provided meets the minimum requirements for dimensions and clearance; access to the parking is adequate. A new drive aisle with a drop-off area will also be added to the front of the Golf Clubhouse and a second entry point to the main parking lot will be added at the northwest corner of the lot. The parking rows in the main parking lot will be reconfigured to an east-west orientation, with access aisles provided on both ends of the parking lot. Each of the drive aisles will be 26 feet wide, which provides adequate room for circulation, turning, and backing for 90-degree parking aisles.

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	Shoreline and Bluff Top Access	
3.1.1-11	Require new development to minimize impacts to public access to and along the shoreline.	Although the subject property is located within the City's coastal zone, it is not located along the Newport Beach shoreline and, therefore, would not deter coastal access in any way.
3.1.1-26	Consistent with the policies above provide maximum public access from the nearest public roadway to the shoreline and along the shoreline with new development except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources or (2) adequate access exists nearby.	As indicated above, direct shoreline access from the subject property does not exist.
3.2.1-3	Provide adequate park and recreational facilities to accommodate the needs of new residents when allowing new development.	The proposed project site consists of 145 acres that presently encompass a private golf and tennis facilities. Although private in nature, these facilities will continue to serve a segment of the City's recreational needs. In addition, the five single-family residential dwelling units proposed (i.e., The Villas) will be subject to the City's park fee ordinance.
	Water Quality	
4.3.1-6	Require grading/erosion control plans to include soil stabilization on graded or disturbed areas.	The project applicant is required to prepare and implement BMPs pursuant to the Stormwater Pollution Prevention Plan (SWPPP) that will be required prior to the issuance of the grading permit for the proposed project. Implementation of these construction BMPs will ensure that grading/erosion control measures are implemented. These measures are intended to minimize erosion and stabilize the site during grading. As indicated above, the applicant will also be required to implement BMPs to ensure that point source and non-point source pollutants are minimized.
4.3.1-7	Require measures to be taken during construction to limit land use disturbance activities such as clearing and grading, limiting cut-and-fill to reduce erosion and sediment loss, and avoiding steep slopes, unstable areas, and erosive soils. Require construction to minimize disturbance of natural vegetation, including significant trees, native vegetation, root structures, and other physical or biological features important for preventing erosion or sedimentation.	In accordance with the WQMP and SWPPP requirements, BMPs will be required as part of the project's development in order to ensure that the potential discharge of pollutants of concern is minimized. The NPDES Technical Study prepared for the project identifies a range of potential BMPs that are intended to minimize erosion associated with water and wind. Several potential erosion control measures have been identified, including the use of hydroseeding, hydromulch, preservation of existing vegetation, scheduling of construction to avoid the climatic conditions that contribute to potential erosion, soil binders, velocity dissipation devices, etc. The SWPPP that will be prepared and approved by the City of Newport Beach will ensure that all appropriate BMPs are implemented to ensure that potential construction-related water quality impacts are reduced to the maximum extent practicable.
4.3.2-3	Require that development not result in the degradation of coastal waters (including the ocean, estuaries and lakes) caused by changes to the hydrologic landscape.	Because the site has been altered and developed with existing golf and tennis facilities, project implementation will not result in significant changes to the existing runoff conditions; however, because both construction and post-construction BMPs will be incorporated into the project design, it is anticipated that some improvement in the quality of the storm and related surface runoff emanating from the site will occur when compared to the existing runoff quality. As indicated above, the applicant will be required to prepare a WQMP and SWPPP to ensure that surface discharges do not degrade the receiving waters. These plans must be approved by the City of Newport Beach.
4.3.2-8	To the maximum extent practicable, runoff should be retained on private property to prevent the transport of bacteria, pesticides, fertilizers, pet waste, oil, engine coolant, gasoline, hydrocarbons, brake dust, tire residue, and other pollutants into recreational waters.	Consistent with this policy, the proposed project will be required to incorporate BMPs that address on-site retention and treatment of surface runoff. The WQMP and SWPPP will include measures to prevent the discharge of pollutants into the storm drain system. Potential post-construction BMPs that may be implemented include grassy swales, detention basins, infiltration basins, infiltration trenches, porous pavement,

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		hydrodynamic separator systems, etc. The BMPs will ensure that runoff will be treated to prevent the continued degradation of Newport Bay. Project implementation will result in an improvement to surface water quality because no or only limited treatment occurs at the present time.
4.3.2-11	Require new development to minimize the creation of and increases in impervious surfaces, especially directly connected impervious areas, to be maximum extent practicable. Require redevelopment to increase area of pervious surfaces, where feasible.	Project implementation will result in an increase of 6.2 cfs when compared to the existing runoff volume. This increase in runoff equates to a 1.3 percent increase in the existing 462 cfs that currently flows in this the existing 69-inch RCP that transports the flows to Newport Bay where it is discharged. As indicated above, the implementation of BMPs will require detention and treatment prior to discharge into Newport Harbor.
4.3.2-12	Require development to protect the absorption, purification, and retention functions of natural drainage systems that exist on the site, to the maximum extent practicable. Where feasible, design drainage and project plans to complement and utilize existing drainage patterns and systems, conveying drainage from the developed area of the site in a non-erosive manner. Disturbed or degraded natural drainage systems should be restored, where feasible.	Only minor changes will occur to the existing drainage systems that accommodate runoff from the site. Surface flows will generally be directed in the same fashion and into the same existing drainage facilities that currently accept storm runoff generated on the site.
4.3.2-13	Site development on the most suitable portion of the site and design to ensure the protection and preservation of natural and sensitive site resources.	The site is generally devoid of natural and/or sensitive resources because it has been substantially altered by prior development of golf and tennis facilities. It is anticipated that some additional pervious area of the property will be improved with structures and impervious surfaces on the Golf Club component; however, the proposed development will occur in the same general area of the site that is currently developed. No important natural and/or sensitive site resources would be adversely affected by the proposed project. The minor increase in surface runoff attributed to site development would be treated prior to its ultimate discharge into Newport Bay to avoid potential impacts to the water quality in the Bay.
4.3.2-16	Require structural BMPs to be inspected, cleaned, and repaired as necessary to ensure proper functioning for the life of the development. Condition coastal development permits to require ongoing application and maintenance as is necessary for effective operation of all BMPs (including site design, source control, and treatment control).	The SWPPP and WQMP that will be prepared for the proposed project will include a maintenance plan and program to ensure that the structural BMPs function effectively and efficiently and that surface runoff meets discharge requirements.
4.3.2-23	Require new development applications to include a Water Quality Management Plan (WQMP). The WQMP's purpose is to minimize to the maximum extent practicable dry weather runoff, runoff from small storms (less the ¾" of rain falling over a 24-hour period) and the concentration of pollutants in such runoff during construction and post-construction from the property.	An NPDES Technical Study has been prepared and is the precursor to the WQMP, which will identify both structural and non-structure BMPs to treat surface runoff generated on the site.
Scenic and Visual Resources		
4.4.1-1	Protect and, where feasible, enhance the scenic and visual qualities of the coastal zone, including public views to and along the ocean, bay, and harbor and to coastal bluffs and other scenic coastal areas.	The project is not located along the ocean, bay or harbor and is devoid of coastal bluffs and other features identified by the City as important visual amenities.
4.4.1-2	Design and site new development, including landscaping, so as to minimize impacts to public coastal views.	A Landscape Concept Plan has been prepared that incorporates a hierarchy of landscape materials, including mature trees, shrubs, and ground cover in a thematic approach to ensure that the aesthetic integrity of the site is maintained and the character complements the coastal character of the coastal zone within which the site is located. In particular, a variable setback along East Coast Highway will be landscaped and bermed to soften and aesthetically enhance and screen the parking lot and to provide enhanced views into the site to provide a greater buffer between the park and residential development located to the south, across East Coast Highway.
4.4.1-6	Protect public coastal views from the following roadway segments: Newport Center Drive.	The segment of Newport Center Drive north of Farallon is designated as a Coastal View Road. However, views

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		from vantages along Newport Center Drive will not be significantly altered as a result of project implementation. The development would not be visible from this Coastal View Road because of the landscaping that exists along the roadway, which blocks and/or filters views to the subject property.
4.4.2-2	Continue to regulate the visual and physical mass of structures consistent with the unique character and visual scale of Newport Beach.	The proposed development includes the Golf Club, The Villas, The Bungalows, and the Tennis Club. The proposed PC District regulations prescribe the architectural character of the proposed structures as well as development standards related to building height, setbacks, landscaping, etc., to ensure that the mixed uses are compatible with the surrounding development. As indicated in the PC District regulations, the development standards are intended to ". . . ensure the harmony and continuity of design parameters that are respectful to the properties of its California coastal heritage." The development and design standards address building mass, scale, materials, landscape treatment, and community design.
4.4.3-15	Design and site new development to minimize the removal of native vegetation, preserve rock outcroppings, and protect coastal resources.	The site has been substantially altered by development of the existing golf and tennis facilities. As a result, no significant rock outcroppings or other important visual amenities exist on the site. No native vegetation will be removed as a result of project implementation.
Paleontological and Cultural Resources		
4.5.1-1	Require new development to protect and preserve paleontological and archaeological resources from destruction, and avoid and minimize impacts to such resources. If avoidance of the resources is not feasible, require an *in situ* or site-capping preservation plan or a recovery plan for mitigating the effect of the development.	The proposed project includes the redevelopment of an existing golf and tennis facilities, which have resulted in significant alteration of the existing site. Although it is not expected that significant cultural resources would be encountered on the site during grading and construction, a cultural resources monitor will be available during grading to ensure that should such resources be encountered, appropriate measures will be implemented to protect artifacts and related materials.
4.5.1-2	Require a qualified paleontologist/archaeologist to monitor all grading and/or excavation where there is a potential to affect cultural or paleontological resources. If grading operations or excavations uncover paleontological/archaeological resources, require the paleontologist/archaeologist monitor to suspend all development activity to avoid destruction of resources until a determination can be made as to the significance of the paleontological/archaeological resources. If resources are determined to be significant, require submittal of a mitigation plan. Mitigation measures considered may range from in-situ preservation to recover and/or relocation. Mitigation plans shall include a good faith effort to avoid impacts to cultural resources through methods such as, but not limited to, project redesign, in situ preservation/capping, and placing cultural resources areas in open space.	In the event human remains, cultural resources and/or fossils are encountered, ground-disturbing excavations in the vicinity of the discovery shall be redirected or halted until a qualified archaeological/paleontological monitor inspects the site to assess the significance of the find. A Native American representative shall be contacted if there is a likelihood that human remains could be of Native American origin.
4.5.1-3	Notify cultural organizations, including Native American organizations, of proposed developments that have the potential to adversely impact cultural resources. Allow qualified representatives of such groups to monitor grading and/or excavation of development sites.	The City has notified representatives of the appropriate Native American organizations as mandated by SB18. Because the site has been altered by grading and development that has occurred in the past, it is unlikely that potential impacts to cultural resources would occur; however, monitoring during grading will be required. In the event important cultural resources are encountered, Native American representatives will be notified.
4.5.1-4	Where in situ preservation and avoidance are not feasible, require new development to donate scientifically valuable paleontological or archaeological materials to a responsible public or private institution with a suitable repository, located within Orange County, whenever possible.	Consistent with this policy, any discovery of artifacts and/or resources, along with supporting documentation and an itemized catalogue, will be accessioned into the collections of a suitable repository.
4.5.1-5	Where there is a potential to affect cultural or paleontological resources, require the submittal of an	As indicated above, it is not anticipated that cultural resources would be encountered based on the level of

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	archaeological/cultural resources monitoring plan that identifies monitoring methods and describes the procedures for selecting archaeological and Native American monitors and procedures that will be followed if additional or unexpected archaeological/cultural resources are encountered during development of the site. Procedures may include, but are not limited to, provisions for cessation of all grading and construction activities in the area of the discovery that has any potential to uncover or otherwise disturb cultural deposits in the area of the discovery and all construction that may foreclose mitigation options to allow for significance testing, additional investigation and mitigation.	disturbance that has taken place on the site. However, should such resources be encountered during grading and construction, the archaeological/paleontological monitor will have the authority to halt or redirect grading operations to avoid impacts and allow proper evaluation and disposition of the resources.
Environmental Review		
4.6-9	Require applications for new development, where applicable, to include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the project site, any necessary mitigation measures, and contains statements that the project site is suitable for the proposed development and that the development will be safe from geologic hazard for its economic life. For development on coastal bluffs, including bluffs facing Upper Newport Bay, such reports shall include slope stability analyses and estimates of the long-term average bluff retreat rate over the expected life of the development. Reports are to be signed by an appropriately licensed professional and subject to review and approval by qualified city staff member(s) and/or contracted employee(s).	A geological assessment has been prepared (refer to Section VI of this analysis, which describes the potential geotechnical constraints (e.g., settlement, ground shaking, etc.) that affect site development. Several recommendations have been identified to ensure that the proposed structures and project components are adequately protected from potential soils, geologic and seismic conditions.

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

No Impact. As previously indicated, the subject property is currently developed with private golf and tennis facilities. As a result, the project site does not support either sensitive habitat and/or species. Furthermore, the property is not subject to a habitat conservation plan area or natural community conservation plan area. Therefore, no significant impacts are anticipated and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

XI. 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?

No Impact. The project site is currently developed with private golf and tennis facilities. Neither the Newport Beach General Plan (Land Use Element and/or Recreation and Open Space Element) nor the State of California has identified the project site or environs as a potential mineral resource of Statewide or regional significance. No mineral resources are known to exist and, therefore, project implementation will not result in any significant impacts.

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?

No Impact. As indicated above, the Newport Beach General Plan does not identify the project environs as having potential value as a locally important mineral resource site. Project implementation (i.e., new Golf Club clubhouse, residential and resort uses) as proposed will not result in the loss of any locally important mineral resource site and, therefore, no significant impacts will occur.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

XII. NOISE

a) Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. There are several characteristic noise sources typically identified with general development such as proposed at the Newport Beach Country Club. Construction activities, especially heavy equipment, will create short-term noise increases near the project sites. Vehicular traffic volumes on area roadways around the proposed project will slightly decrease as a result of conversion of 17 tennis courts to less traffic-intrusive residential and hotel uses. This will result in a very small area-wide traffic noise reduction. However, vehicular noise impacts on proposed on-site residential uses were examined.

Project activities will entail the continuation of long standing outdoor golf and tennis uses and limited indoor activities. Outdoor recreational activities at the Country Club represent a continuation of existing activities, which are compatible with the nearby residential and non-residential development in the project environs. Although some noise is associated with tennis, in particular, it is not so intrusive that it would be disruptive or incompatible with the existing uses. No noise impact analysis was therefore conducted for outdoor recreation because golf activities will remain at the existing level and tennis activities will be reduced with the reduction in the number of tennis courts. The primary noise sources for off-site uses that would be of possible concern would be any changes in the parking lot activity noise. Additionally, any new HVAC equipment installed on the project site would be required to meet noise standards as outlined in the City of Newport Beach Municipal Code. Noise impacts anticipated to occur as a result of the proposed project are discussed in greater detail in Section XII.c., below.

b) Would the project result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. Construction activities generate groundborne vibration when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Within the "soft" sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance. Groundborne vibration attenuates quickly with distance. Vibration levels from the use of heavy equipment would be typical of that used for other projects; no blasting or other extraordinary grading techniques would be necessary to implementation the proposed project. Therefore, potential groundborne vibration would be expected to be imperceptible at the nearest off-site homes. Construction activity vibration impacts are judged as 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?

Less Than Significant Impact. Existing noise levels on the proposed project site derive mainly from vehicular sources on the adjacent arterial roadways. The proposed project site is currently a functioning Tennis and Golf Country Club. The surrounding area is developed with residential uses to the northeast and southwest. The site is bound by Newport Center Drive to the east, East Coast Highway to the south and Santa Barbara Drive to the north.

Noise measurements were taken in order to document existing baseline levels in the area. On-site noise levels in the vicinity of the future on-site residential uses are in the 55-60 dB range. Such levels are well within Newport Beach residential noise standards of 65 dB CNEL. The Villas and The Bungalows will be exposed to traffic along surrounding roadways. The projects residential component lies approximately 2,900 feet from the Jamboree Road centerline and 2,700 feet from the MacArthur Boulevard centerline. There are numerous intervening buildings separating the site from these roadways. Given the setback distance and noise attenuation provided by existing building structures, noise from these roadways was not considered to provide a significant impact upon the proposed project residential uses. East Coast Highway is approximately 450 feet from the closest proposed on-site residential use and as such provides the largest potential traffic noise impact. Although other roadways will add to the project noise exposure level, they will not dominate the noise environment.

As discussed above, noise meters placed in the approximate location of the proposed on-site residential units demonstrated existing CNELs of 55 dB CNEL in the center of the proposed residential area and 60 dB CNEL at the approximate location of the closest residential unit. Existing office and Country Club buildings assist in shielding the proposed residential area from traffic noise emanating from East Coast Highway.

Project-related traffic will not contribute significantly to the ambient noise levels in the area. In addition, the continuation of the tennis club would similarly not contribute significantly to the ambient noise levels and, therefore, would not adversely affect the nearby residential development because the number of tennis courts has been reduced and the noise levels would be expected to be the same or less than that currently associated with activities at the Tennis Club facility.

As discussed earlier in this report, in year 2009, the section of PCH closest to the project site (between Jamboree Road and Newport Center Drive) had a traffic count of 35,660 vehicles per day equating to a noise level of 73.5 dB CNEL at 50 feet from the centerline. At 450 from the centerline, at the approximate location of the closest proposed on-site residence, this noise level decays to 59 dB CNEL due to distance spreading losses utilizing soft-site conditions. Several intervening buildings afford a partial shielding accounting for approximately -3 dB CNEL. The predicted on-site CNEL is approximately 56 dB. The measured CNEL levels were 55 and 59 dB. CNEL levels as calculated from both modeling and measurements are similar.

Newport Beach Traffic Engineering estimates a 1 percent growth rate per year for traffic along Pacific Coast Highway. Assuming area buildout occurs in 2020, there would be almost 40,000 vehicles along Pacific Coast Highway each day, resulting in a +0.4 dB increase over existing. Therefore, the future noise level for proposed on-site residential uses would be indistinguishable from existing CNEL levels in the upper 50 dB range.

This noise level is well below the City of Newport Beach recommended exterior compatibility noise level of 65 dB CNEL for residential uses. Typical exterior to interior noise attenuation with open windows is at least -10 dB CNEL, and in modern construction, 20-30 dB CNEL with closed windows. This translates into interior levels of less than 51 dB CNEL with open windows and less than 41 dB CNEL with closed windows. Interior levels will readily meet the 45 dB CNEL standard for habitable rooms. There is no siting conflict for planned residential uses within the project site.

The project's primary parking lot will remain along PCH and will accommodate 300 cars. Smaller lots are scattered in the tennis court area and accommodate 20-38 cars each. On-site proposed parking will accommodate 398 vehicles. In addition, to 554 parking stalls are also available to accommodate parking for the project through a parking agreement with the adjacent Corporate Plaza West development. Parking lot activities are sporadic but with a morning and evening peak hour volume. Existing peak hour traffic volume is 129 vehicles per hour. Proposed peak hour traffic volume will be 94 vehicles per hour. Noise emanating from vehicles entering and exiting the proposed project site improvements will be less than from existing site operations and will be spread over several areas. Parking lot noise is not anticipated to be a noise nuisance.

The uses planned for the NBCC are a continuation of existing uses and do not represent any significant new noise source and as such is not anticipated to generate noise that will affect off-site uses.

d) Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing with the project?

Less than Significant with Mitigation Incorporated. Temporary construction noise impacts will vary markedly because the noise strength of construction equipment ranges widely as a function of the equipment used and its activity level. Short-term construction noise impacts tend to occur in discrete phases dominated initially by demolition of existing structures and large earth-moving sources, then by foundation and parking lot construction, and finally for finish construction. The demolition and earth-moving sources are the noisiest, with equipment noise typically ranging from 75 to 90 dBA at 50 feet from the source.

Point sources of noise emissions are typically attenuated by a factor of 6 dB per doubling of distance through geometrical (spherical) spreading of sound waves. The quieter noise sources will drop to a 65 dBA exterior/45 dBA interior noise level by about 200 feet from the source. For typical construction scenario, the louder noise sources may require over 1,000 feet from the source to reduce the 90+ dBA source strength to a generally acceptable 65 dBA exterior exposure level.

Grading involves recycling the 14,583 cubic yards of removed hardscape to implement the proposed project. This hardscape would be removed and then crushed on-site to be utilized as fill material rather than require importation of fill dirt. Analysis of this scenario involves quantifying noise from crushing equipment that would operate on site.

Rock crusher noise depends upon the type of material processed. Hard rock with large individual pieces is noisier than recycled asphalt. Asphalt is very soft material with the bulk of the noise coming from the screens and not the crusher. Noise impacts from the crushing operations that would occur within the project site are associated with the processing of the mostly concrete and broken asphalt rubble as the bulk of the material processed by the on-site crusher. The debris crushed on-site is considered a "soft" material.

Sound decays at a rate of 6 dB per doubling of source-receiver distance for propagation across a smooth, hard surface. The drop-off rate across irregular, vegetated surfaces are somewhat faster. If there are obstructions to the direct line-of-sight, the drop-off rate is much faster. Placement of a large barrier along the line-of-sight can reduce levels by 15-20 dB from their unimpeded transmission. Audibility will also depend upon background conditions. The closest off-site residence to possible crusher operations is approximately 500 feet.

The noise impact from the crusher therefore depends on a very large number of variables:

- Type of material crushed
- Character of the underlying surface
- Source receiver distance
- Presence of any physical obstructions
- Masking effects of background levels

The noise envelope for a prototype crusher as a function of various variables is reflected in Table 12.

Table 12

Rock Crusher Noise Envelope
Newport Country Club

Source Receiver Distance (feet)	Soft Rock Soft[1] Surface
50	85
100	78
200	70
400	63
500	60
800	57

[1]Unpaved, vegetated and irregular surface

SOURCE: Giroux & Associates (July 2009)

.

The Noise Code identifies a desirable L_{25} noise exposure of 55 dB and L_{25} nighttime of 50 dB. Under direct line of sight conditions, crusher noise could slightly exceed the City's noise standard at the closest residences. Interruption of the line of sight would reduce noise levels by 10 dB or more and would meet the City's noise standard. Therefore, use of a stockpile of rubble, or a temporary sound blanket as a barrier between the crusher and the closest home(s), is required if the on-site recycling is selected (see Mitigation Measure MM-8).

The project will also comply with the noise ordinance relating to permissible hours of construction operations and will not start construction operations until 8:00am. According to the City of Newport Beach Municipal Code, permissible hours of construction are 7:00 a.m. and 6:30 p.m. on weekdays and 8:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted on any national holiday or on any Sunday. This exclusion from numerical standards ordinance compliance is presumed applicable to any mobile construction equipment, but not to a possible rock crusher. These hours are included as conditions on any project construction permits and these limits will serve to minimize any adverse construction noise impact potential.

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

No Impact. John Wayne Airport is located approximately 4.0 miles north of the subject property. As indicated in Section VIII.e., a portion of the Newport Beach Country Club property is located within the AELUP Notification Area (i.e., FAR Part 77) for JWA. Noise in the vicinity of the project site associated with aircraft operations occurring at John Wayne Airport is below 60 dBA CNEL and therefore, the proposed clubhouse will not be subjected to excessive noise levels. Nonetheless, the City is required to submit the proposed PC Amendment to the ALUC for a determination of consistency in accordance with Section 4.3 of the AELUP prior to adoption by the City. No significant impacts are anticipated and no mitigation measures are required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is not within the vicinity of a private airstrip or other aviation facility that generates noise in the vicinity of the subject property. Development of the site as proposed will not result in potential adverse impacts, including safety hazards, to people residing or working in the project area.

Therefore, no significant impacts will occur as a result of project implementation and no mitigation measures are necessary.

Mitigation Measures

As indicated in the preceding analysis, potentially significant short-tem, construction noise impacts are anticipated as a result of project implementation in the event that a rock crushing operation is located on the subject property to utilize the on-site materials as fill. The following measures are recommended to ensure that potential construction noise impacts associated with the potential rock crushing operation are reduced to a less than significant level. Additional measures are also recommended to further reduce temporary construction noise levels.

MM-3 During rock crushing operations, a sound blanket shall be used if a direct line of sight exists between the crusher and any off-site homes.

MM-4 All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.

MM-5 Prior to issuance of a grading permit, a construction schedule shall be developed that minimizes potential project-related and cumulative construction noise levels.

MM-6 The construction contractor shall notify the residents of the construction schedule for the proposed project, and shall keep them informed on any changes to the schedule. The notification shall also identify the name and phone number of a contact person in case of complaints. The contact person shall take all reasonable steps to resolve the complaint.

MM-7 Heating, venting, and air conditioning (HVAC) equipment in or adjacent to residential areas shall be shown by computation, based on the sound rating of the proposed equipment, not to exceed an A-weighted sound pressure level of fifty (50) dBA or not to exceed an A-weighted sound pressure level of fifty-five (55) dBA.

XIII. 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?

Less than Significant Impact. Project implementation includes the development of five (5) single-family detached residential dwelling units. Based on the City's population per household average of 2.19,[15] the proposed project would generate a total of 11 residents. The residential development proposed with this project in Anomaly No. 46 (i.e., Tennis Clubhouse component) is permitted in accordance with the MU-H3 land use designation. As a result, the addition of the five single-family residential dwelling units is consistent with the General Plan. Consequently, development of these dwelling units would not result in either direct or indirect unanticipated growth in the City. Therefore, no significant impacts are anticipated and no mitigation measures are required.

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

No Impact. As previously indicated, the project site is developed with the Newport Beach Country Club and former Balboa Bay Tennis Club; both are private recreational facilities. No residential development exists within the limits of the subject property. Project implementation, therefore, will not result in the displacement of any existing residential dwelling units that would necessitate replacement elsewhere in the City. No significant impacts will occur and no mitigation measures are required.

[15]Newport Beach Housing Element; Table H14.

c) **Would the project displace substantial numbers of people, necessitating the construction of replacement housing?**

No Impact. As indicated above, the subject property does not support existing residential uses; therefore, no displacement of occupants will occur and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

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? Less than Significant Impact. Fire protection facilities and service to the subject property are provided by the Newport Beach Fire Department (NBFD). In addition to the City's resources, the NBFD also maintains a formal automatic aid agreement with the Orange County Fire Authority (OCFA) and all neighboring municipal fire departments to facilitate fire protection in the City should the need arise. Fire Station No. 3 -Fashion Island is the closest responding fire station to the subject property. The project includes all necessary fire protection devices, including fire sprinklers. The project must comply with the current Building and Fire Codes adopted by the City. A code compliance analysis will be conducted by City staff to ensure that adequate water pressure and related features required by the City are provided to ensure that the project complies with the CFC and related City codes. Adequate water supplies and infrastructure, including fire hydrants, exist in the vicinity of the project, and there is no requirement for other new facilities or emergency services.

Police protection? Less than Significant Impact. The Newport Beach Police Department (NBPD) is responsible for providing police and law enforcement services within the corporate limits of the City. The Police Department headquarters is located at 870 Santa Barbara Drive, at the intersection of Jamboree Road and Santa Barbara, approximately two miles northeast of the subject property. The NBPD currently has a ratio of 1.91 sworn officers for each 1,000 residents in the City. This ratio is adequate for the current population. Police and law enforcement service in the City is provided by patrols with designated "beats." Development of the subject site as proposed would not require an expansion to local law enforcement resources and therefore would not result in any environmental impacts involving construction of new law enforcement facilities. No significant impacts are anticipated and no mitigation measures are required.

Schools? Less than Significant Impact. The provision of educational facilities and services in the City of Newport Beach is the responsibility of the Newport-Mesa Unified School District. Residential and non-residential development is subject to the imposition of school fees. Payment of the State-mandated statutory school fees is the manner by which potential impacts to the District's educational facilities are mitigated. The five single-family residential dwelling units (i.e., The Villas) included in the proposed project would not generate a significant number of new students in the District. The five dwelling units were included in the General Plan Update analysis. Based on the General Plan analysis of new dwelling units within the City,[16] the proposed project would generate approximately 2 students. New or expanded school facilities would not be required to provide classroom and support space for the low number of school age children. However, as indicated above, the project applicant must pay the applicable school fee

[16] Newport Beach General Plan Update EIR; June 2006.

to the school district, pursuant to Section 65995 of the California Government Code, in order to offset the incremental cost impact of expanding school resources to accommodate the increased student enrollment associated with one new residence. With the payment of the mandatory school fees, no significant impacts would occur as a result of project implementation.

Other public facilities? No Impact. Due to the reduction in residential density, no increased demand for other public services is anticipated and there would be no need to construct any new public facilities. No significant impacts are anticipated and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

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?

Less Than Significant Impact. Implementation of the proposed project will result in the construction of only five single-family homes, known as the Villas, 27 short-term hotel units, known as The Bungalows, and a remodeled private Tennis Club, including the Tennis Clubhouse. The Bungalows will be available for use by Tennis Club and Golf Club members, as well as the general public. Although residents of the proposed Villas and visitors of the Bungalows would occasionally visit local and regional parks and beaches, use of those public facilities by the future Villa residents and Bungalow guests would not represent a substantial change in the intensity of usage and the impact would not result in substantial physical deterioration of those park areas. The subject site is located in Service Area 9 (Newport Center), which currently supports 19 acres of existing parkland, which exceeds the 10.9 acres of parkland "needs" based on the City's currently a requirements. Nonetheless, the applicant would be subject to the payment of in-lieu park fees (refer to XV.b) in accordance with Title 19 of the Newport Beach Municipal Code. No significant impacts to recreational facilities are anticipated and no mitigation measures are required.

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?

No Impact. Development of the site as proposed would not require the construction of new or the expansion of existing recreational facilities in the City of Newport Beach. However, as indicated above, Title 19 (Subdivisions) of the Newport Beach Municipal Code requires the developer to pay a fee for the proposed residential component of the project. This fee will be used to augment recreational facilities in the City. Therefore, no significant impacts are anticipated and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

XVI. 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?

Less Than Significant with Mitigation Incorporated. Short-term traffic impacts are those resulting from site preparation (i.e., grading and site preparation) and construction activities. With the exception of heavy trucks traveling to and from the site in the morning and afternoon to be used during site preparation and construction that occurs on-site, no other heavy truck traffic associated with hauling earth materials to or from the site will occur. During the construction phase, there will be periods of time when heavy truck traffic would occur that could result in some congestion on East Coast Highway. However, the number of heavy trucks entering and leaving the project area would be limited to those transporting equipment and materials to the site. Other construction-related traffic impacts are associated with vehicles carrying workers to and from the site and medium and heavy trucks carrying construction materials to the project site, which may result in some minor traffic delays; however, potential traffic interference caused by construction vehicles could create a temporary/short-term impact to vehicles using neighboring streets in the morning and afternoon hours. Therefore, aside from potentially minor impacts resulting from the increase in traffic that will occur as a result of construction-related traffic (e.g., construction materials, construction workers, etc.), no significant short-term impacts are anticipated to occur as a result of project implementation. Nonetheless, the construction traffic impacts would be adequately addressed through the implementation of a Construction Staging, Parking and Traffic Control Plan for each phase of construction.

Project implementation would result in a net decrease in vehicular trips. As indicated in Table 13, the proposed project would generate a total of 1,183 trips per day, including 69 a.m. peak hour trips and 94 p.m. peak hour trips. These figures are compared to the 1,572 daily trips and 72 a.m. peak hour and 129 p.m. peak hour trips currently generated by the existing golf and tennis facilities. The resulting decrease in daily and peak hour trips would, therefore, not adversely affect any of the operational levels of service of the intersections in the project environs.

As indicated in Table 13, project implementation would result in the elimination of 17 tennis courts, which would be replaced by The Bungalows and five single-family residential dwelling units. As a result, traffic generated by the proposed project would decrease by 389 daily trips; a.m. and p.m. peak hour trips would also decrease by 3 and 35 trips, respectively. Since the proposed Newport Beach Country Club project would generate less daily and peak hour traffic than the existing development, a detailed traffic analysis was not conducted. No significant project-related or cumulative long-term traffic impacts would occur as a result of the proposed project and no mitigation measures are required.

Table 13

Summary of Project Trip Generation
Newport Beach Country Club

Land Use	Unit	Trip Generation Rates[1]						
		Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Golf Club	Hole	35.74	1.76	0.47	2.23	1.23	1.51	2.74
Tennis Club	Court	38.70	0.66	0.66	1.32	1.68	1.68	3.36
Bungalows	Room	8.17	0.34	0.2	0.56	0.31	0.28	0.59
Single-Family Residential	DU	9.57	0.19	0.56	0.75	0.64	0.37	1.01
Land Use	**Unit**	**Trip Generation Estimates**						
		Daily	**AM Peak Hour**			**PM Peak Hour**		
			In	**Out**	**Total**	**In**	**Out**	**Total**
Existing Development								
Golf Club	18 Holes	643	32	8	40	22	27	49
Tennis Club	24 Courts	929	16	16	32	40	40	80
Total – Existing Uses		**1,572**	**48**	**24**	**72**	**62**	**67**	**129**
Proposed Development								
Golf Club	18 Holes	643	32	8	40	22	27	49
Tennis Clubhouse	7 Courts	271	5	5	10	12	12	24
Bungalows[2]	27 Rooms	221	9	6	15	8	8	16
Single-Family Residential	5 DU	48	1	3	4	3	2	5
Total – Proposed Uses		**1,183**	**47**	**22**	**69**	**45**	**49**	**94**
Net New Trips		**-389**	**-1**	**-2**	**-3**	**-17**	**-18**	**-35**

[1]Trip generation rates from Institute of Transportation Engineers (ITE) Trip Generation (8th Edition).

SOURCE: Kimley-Horn Associates, Inc. (June 2009)

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

No Impact. As indicated in Table 3 in Section XVI.a, project implementation will result in a net decrease in vehicular trips. Neither the daily nor peak hour trips exceed those required to undertake a CMPAs a result, intersection analysis. Traffic operations in the project area would not be adversely affected by project-related traffic. Therefore, the proposed project would neither result in direct project-related impacts nor contribute to the cumulative degradation of any intersection in the project environs. Furthermore, project implementation would not conflict with either the County's CMP or other standard, including those adopted by the City of Newport Beach. No significant cumulative impacts are anticipated and no mitigation measures are required.

c) Would the project result in a change in air traffic pattern, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed project site is located approximately four miles from John Wayne Airport and is not located within an area that is affected by aircraft operations. The proposed Planned Community District regulations for the project allow for a maximum building height of 50 feet. The proposed structures would not necessitate any changes in the air traffic patterns because the project site is not

located within the airport environs and would not affect airport operations. This project would have no effect on the volumes of air traffic occurring at John Wayne Airport or any other airports in the region. No significant impacts are anticipated and no mitigation measures are required.

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)?

Less than Significant Impact. During the construction phases, a variety of construction vehicles, including large delivery trucks, concrete pumpers, dump trucks, and a variety of passenger vehicles, will travel to and from the subject property. On some occasions, there will be a number of medium and heavy trucks that could add to local congestion levels and possibly affect through-traffic for short periods of time. Although potential conflicts are anticipated to be less than significant, implementation of a construction traffic management plan (refer to MM-10), which is required by the City of Newport Beach, would ensure that any conflicts resulting during the construction phase would be minimized.

The project proposes changes to the main parking area in front of the Golf Clubhouse, including landscaping and beautification of the area and minor changes to on-site circulation; the project site access to the public street system at East Coast Highway (via Irvine Terrace) and at Granville Drive will remain unchanged. Irvine Terrace will be improved with a landscaped median and will be striped to delineate two inbound lanes and two outbound lanes. However, in order to accommodate left-turn movements, the left-turn pocket at the intersection with East Coast Highway should be lengthened to provide a minimum of 100 feet plus the transition. With the incorporation of this measure, no significant impacts are required.

In addition, a new drive aisle with a drop-off area will also be added to the front of the Golf Clubhouse and a second entry point to the main parking lot will be added at the northwest corner of the lot. The parking rows in the main body of the parking lot will be reconfigured to an east-west orientation, with access aisles provided on both ends of the parking lot. Each of the drive aisles will be 26 feet wide, which provides adequate room for circulation, turning, and backing for 90-degree parking aisles.

Pedestrian access from the Golf Club parking lot is improved by a pedestrian walkway with enhanced paving through the center of the parking lot, which connects directly to the Golf Clubhouse.

e) Would the project result in inadequate emergency access?

Less than Significant Impact. The primary access to the project site is provided via a drive aisle that connects to the end of Irvine Terrace, which in turn connects to East Coast Highway (i.e., State Highway 1). Irvine Terrace also provides access to the adjacent Corporate Plaza West development. The Irvine Terrace/East Coast Highway intersection is a signalized intersection. As indicated in Section XVI.d, Irvine Terrace will be improved with two inbound and two outbound lanes. In addition to the project access from Irvine Terrace, the project proposes a new access and cul-de-sac, which will provide access to The Bungalows and The Villas. Indirect access is also available from Farallon via Newport Center Drive east of the site; however, access to The Tennis Club, The Bungalows, and The Villas would be from the proposed cul-de-sac. Adequate emergency access exists to serve both components of the proposed project. Nonetheless, the Newport Beach Fire Department will conduct a code compliance analysis with the City's Building Department to ensure that adequate emergency access is provided.

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

Less than Significant Impact. As indicated in Table 10, the proposed project is consistent with relevant policies articulated in the City's Circulation Element of the General Plan. In addition, public transportation would not be impacted by the proposed. The project is located in an area of the City that is served by public transportation (OCTA bus service) and public transit access is available in the project vicinity along Coast Highway. The project is located in proximity to existing retail and commercial development. The addition of five single-family residential dwelling units, 27 bungalows and spa would be adequately served by the existing public transportation available along PCH and in the project environs. Similarly, neither

bicycle nor pedestrian facilities would be significantly altered as a result of the proposed project. Bicycle lanes along Coast Highway would not be affected. In addition, walkways within the proposed project would accommodate pedestrians. No significant impacts are anticipated and no mitigation measures are required

Mitigation Measures

The following mitigation measure is proposed to minimize the level of impact associated with temporary construction traffic:

MM-8 Prior to commencement of each major phase of construction, the Applicant shall submit a Construction Staging, Parking and Traffic Control Plan for approval by the Public Works Department, which shall address issues pertaining to potential traffic conflicts during peak traffic periods, potential displacement of on-street parking, and safety.

- This plan shall identify the proposed construction staging area(s), construction crew parking area(s), estimated number and types of vehicles that will occur during each phase, the proposed arrival/departure routes and operational safeguards (e.g. flagmen, barricades, etc.) and hourly restrictions, if necessary, to avoid traffic conflicts during peak traffic periods and to ensure safety.

- If necessary, the Construction Staging, Parking Traffic Control Plan shall provide for an off-site parking lot for construction crews which will be shuttled to and from the project site at the beginning and end of each day until such time that the project site can accommodate off-street construction vehicle parking.

- The plan shall identify all construction traffic routes, which shall avoid narrow streets unless there is no alternative, and the plan shall not include any streets where some form of construction is underway within or adjacent to the street that would impact the efficacy of the proposed route.

- Dirt hauling shall not be scheduled during weekday peak hour traffic periods.

- The approved Construction Staging, Parking and Traffic Control Plan shall be implemented throughout each major construction phase.

MM-9 The left-turn pocket on Irvine Terrace at the Coast Highway shall be increased in length to a minimum of 100 feet plus transition in order to adequately accommodate left-turn movements.

XVII. UTILITIES & SERVICE SYSTEMS

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

No Impact. Wastewater from the City's sewer system is treated by the Orange County Sanitation District (OCSD), which is responsible for safely collecting, treating, and disposing the wastewater generated by 2.3 million people residing in central and northwest Orange County. Raw sewage generated in the City is treated at the OCSD Treatment Plant No. 2 in Huntington Beach, which has a treatment capacity of 276 million gallons per day (mgd). Treatment of raw sewage includes preliminary treatment, primary treatment, anaerobic digestion, secondary treatment, and solids handling. Treatment Plant No. 2 is operating at approximately 55 percent of its design capacity.

Wastewater generated by the proposed project would be the same as other similar developments in the City and would not contain hazardous waste or other pollutants. Based on sewage generation rates in the City's General Plan EIR, the five single-family residential dwelling units would generate up to less than 2,000 gallons per day (gpd) of raw sewage. In addition, the 27 bungalows would generate an

additional, 4,050 gallons per day utilizing the visitor serving (i.e., hotel) generation factor. Because the Tennis Clubhouse and Golf Clubhouse and facilities currently exist, the increase in sewage generation from these two uses is anticipated to be approximately 3,300 gallons per day as a result of the increase in floor area associated with the Golf Clubhouse. The uses would generate approximately 7,750 gallons per day of raw sewage, compared to the 5,450 gallons per day estimated based on the existing floor areas. The additional sewage generated by the project would be incrementally insignificant when compared to the 4.1 mgd increase anticipated as a result of buildout of the City's General Plan. The raw sewage generated by the project would be disposed into the existing sewer system and would be transported to OCSD Treatment Plant No. 2, which is adequate capacity to accommodate the City's buildout needs for waste treatment. As a result, project implementation would not exceed existing treatment infrastructure and expansion would not be required. Furthermore, the additional treatment needs would not exceed wastewater treatment standards of the Regional Water Quality Control Board. No significant impacts are anticipated and no mitigation measures are required.

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?

No Impact. Water demand and wastewater generation will not increase significantly as a result of the development of the five single-family residential dwelling units and 27 bungalows on the site. Based on water demand rates, the proposed project would generate a demand for approximately 45,000 gallons per day for the five single-family dwelling units and the 27 bungalow units.[17] In addition, the Golf Clubhouse and Tennis Clubhouse would create a demand for an additional 7,750 gallons per day compared to the existing demand of 3,300 gallons per day. The proposed project is within the land use projections of the City, which are the basis of future water demand demands and wastewater generation within Newport Beach. The project will connect to existing water and wastewater facilities in the project vicinity. No expansion of these facilities is necessary due to existing capacity. No significant impacts are anticipated and no mitigation measures are required.

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?

Less than Significant Impact. The project will result in additional impervious surface areas by the new buildings, streets, parking lots, walkways and other hardscape. The additional hardscape will result in a small increase in runoff during storm periods. The site will be designed to ensure that surface runoff will be directed to existing facilities. As indicated in Section VIII, some of the existing storm drain facilities do not have adequate capacity to accommodate existing or future storm flows; however, deficient in-tract facilities will be upgraded to accommodate post-development flows. All storm flows generated on the subject property will be collected and conveyed to Newport Bay where it will be discharged. Therefore, the increase in project-related storm flows will not result in a potentially significant impact and no mitigation measures are required.

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?

Less than Significant Impact. See response to XVII.b above. The City of Newport Beach provides water service within the project vicinity. The City's water supplies are imported water purchased from the Municipal Water District of Orange County (MWDOC), groundwater pumped from the Orange County Groundwater Basin, and reclaimed water. The City currently maintains a total system capacity of approximately 100 million gallons in three facilities. According to the City's 2005 Urban Water Management Plan (UWMP), water supplies can continue to meet the city's imported water needs until the year 2030. Beyond that date, improvements associated with the State Water Project supply, additional local projects, conservation, and additional water transfers would be needed to adequately serve the City.

[17] Assumes 2.19 persons per dwelling unit and bungalow, based on the City's population per household.

However, during short-term periods of water supply reductions, the City would implement its water shortage contingency plan.

As indicated in the City's General Plan EIR, additional development accommodated under the General Plan, including the proposed project would increase water use within the City, thus increasing the need for water treatment services. However, as indicated above, MWD has indicated that it can meet all of the City's imported water needs through 2030. In addition, Orange County Water District anticipates that there would also be sufficient groundwater supplies to meet projected future demand requirements in the City. Future water demand based on the General Plan projections would not be increased significantly with the addition of the proposed development. The demand created by the proposed project is consistent with the City's long-range projections for development that are the basis of water demands in Newport Beach. The General Plan has identified the minimization of water consumption as one of its goals in the Natural Resources Element. The proposed project would be subject to the policies that would achieve that goal, including limiting water usage, prohibitions on activities that waste water or cause runoff, and water efficient landscaping and irrigation in conjunction with other water conserving devices and practices in new construction. Specifically, water conservation measures will be required on the proposed project as prescribed in Chapter 14.16 (Water Conservation and Supply Level Regulations) and Chapter 14.17 (Water-Efficient Landscaping) of the Newport Beach Municipal Code. Therefore, no significant direct or cumulative impacts are anticipated based on the findings in the City's General Plan EIR; no mitigation measures are required.

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?

No Impact. See response to XVII.b above. As indicated in that response, adequate sewer collection, conveyance and treatment facilities exist to accommodate the incremental increase in raw sewage resulting from the development of the proposed project. No impacts are anticipated and no mitigation measures are required.

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

Less than Significant Impact. Project implementation will result in the generation of demolition debris and some refuse during the construction phase; however, it would be relatively small and would not adversely affect existing capacities at the County's sanitary landfills. The project includes recycling some of the demolition materials generated during the construction phase. Asphalt and concrete will be crushed on-site and utilized as fill material to accommodate the proposed project. As a result, the amount of demolition materials that would require transport to and placement in one of the County's landfills would be reduced by the recycling of the asphalt and concrete.

Based on the City's General Plan EIR, it is anticipated that the Orange County landfill system will have adequate capacity to operate until 2035. Based on the solid waste generate rates presented in the General Plan EIR, the five single-family residential dwelling units and the 27 bungalows would generate less than 100 pounds per day of solid waste. Because the Golf Club and Tennis Club currently exist, no significant increase in refuse would be anticipated as a result of the reconstruction of those facilities. With the remaining capacity of approximately 44.6 million tons, as well as a 16-year lifespan at the Frank R. Bowerman Sanitary Landfill (without the proposed expansion that would extend the life of this facility to 2053), the City-wide potential increase in solid waste due to General Plan buildout, including the proposed project, would not result in the exceedance of capacity of that landfill. In addition, AB 939 mandates the reduction of solid waste. As a result, it is anticipated that at least a 50 percent reduction in refuse would be required. Therefore, the project will not result in a significant increase in solid waste production due to the proposed project. Existing landfills are expected to have adequate capacity to service the site and use. No significant impacts are anticipated and no mitigation measures are required.

g) Would the project comply with federal, state, and local statues and regulations related to solid waste?

Less than Significant Impact. Solid waste production will be picked up by either the City of Newport Beach or a commercial provider licensed by the City of Newport Beach. All federal, state and local regulations related to solid waste will be adhered to through this process. No significant impacts are anticipated and no mitigation measures are required.

Mitigation Measures

No significant impacts are anticipated and no mitigation measures are required.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

The environmental analysis conducted for the proposed project indicates that although the proposed project could have the potential for significant adverse environmental impacts, the impacts would be reduced to a less than significant level through the implementation of mitigation measures as prescribed in the preceding analysis.

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?

Less than Significant Impact. The proposed project would not have the potential to degrade the quality of the environment. The site is entirely developed with private recreational uses and has been altered from its natural state. As a result, it does not support sensitive habitat and/or sensitive plant or animal species. As a result, the proposed project would reduce the habitat of a wildlife species and/or threaten to eliminate one or more sensitive plant species. No historic structures or sites are present in the project area, which may be affected by the proposed project. The proposed project would not eliminate important examples of the major periods of California history or prehistory. Therefore, no significant impacts are anticipated and no mitigation measures are required.

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

Less than Significant Impact. Redevelopment of the site as proposed would result in a negligible difference in long-term environmental effects associated with use of the site. Project implementation would result in fewer vehicular trips and, therefore, a reduction in the pollutant emissions when compared to the existing use of the site. No significant impacts to biological resources, cultural resources, public health and safety, mineral resources, population and housing, agricultural resources or other environmental issues would occur. In addition, the proposed project would result in an overall reduction in the volume of storm runoff and an improvement in the quality of the water prior to its discharge when compared to the existing use of the site. Therefore, the project would not contribute to the cumulative degradation of the environment or exacerbate unacceptable environmental conditions (e.g., biological resources, etc.) when considered with other projects proposed in the project environs.

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

Less than Significant with Mitigation Incorporated. The preceding analysis conducted for the proposed project indicated that although project implementation could result in some potentially significant environmental effects (e.g., soils and geology, hazards and hazardous materials, etc.), with the implementation of mitigation measures prescribed in this analysis, the proposed project would not result in significant environmental impacts on humans, either directly or indirectly.

SOURCE LIST

The following enumerated documents are available at the offices of the City of Newport Beach, Planning Department, 3300 Newport Boulevard, Newport Beach, California 92660.

1. Newport Beach General Plan; City of Newport Beach; adopted July 25, 2006.
2. Final Program EIR – City of Newport Beach General Plan
3. Title 20, Zoning Code of the Newport Beach Municipal Code.
4. City Excavation and Grading Code, Newport Beach Municipal Code.
5. Chapters 10.26 and 10.28, Community Noise Ordinance of the Newport Beach Municipal Code.
6. South Coast Air Quality Management District, Air Quality Management Plan 1997.
7. South Coast Air Quality Management District, Air Quality Management Plan EIR, 1997.

The following documents have been prepared specifically for this project, and are incorporated by reference within this initial study. The documents are available at the office of the City of Newport Beach, Planning Department.

1. Report of Geotechnical Studies and Review of Vesting Tentative Tract Map No. 15347, Newport Beach Country Club; GMU Geotechnical, Inc.; May 2, 2008.
2. Revised Preliminary Geotechnical Design Parameters for the NBCC Planned Community, Newport Beach Country Club; GMU Geotechnical, Inc.; April 25, 2008.
3. Phase I Environmental Site Assessment; Newport Beach Country Club Planned Community; Partner Engineering and Science, Inc.; April 3, 2009.
4. Traffic and Parking Evaluation for the Proposed Newport Beach Country Club Project in the City of Newport Beach; Kimley Horn and Associates, Inc.; June 2009.
5. NPDES Technical Study (Newport Beach Country Club Planned Community District Plan); Adams-Streeter Civil Engineers, Inc.; January 14, 2009
6. Preliminary Hydrology Report for Vesting Tentative Tract Map No. 15347; Adams-Streeter Civil Engineers, Inc.; July 13, 2009.
7. Newport Beach Country Club Planned Community District Plan; January 12, 2009.
8. Air Quality Analysis for the Newport Beach Country Club Project; Giroux & Associates; July 23, 2009.
9. Noise Assessment for the Newport Beach Country Club Project; Giroux & Associates; July 23, 2009.
10. Newport Beach Country Club Parking Supply Analysis; LSA Associates, Inc.; August 20, 2008.

MITIGATION MONITORING AND REPORTING PROGRAM
FOR
NEWPORT BEACH COUNTRY CLUB – GOLF REALTY FUND
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
(PA2005-140)
January 24, 2012

MITIGATION MONITORING AND REPORTING PROGRAM

In accordance with the California Environmental Quality Act (CEQA), the City of Newport Beach prepared a Mitigated Negative Declaration (MND) and Initial Study for the proposed Newport Beach Country Club project located in the City of Newport Beach. The MND indicated that there would not potential adverse environmental impacts to the project. The mitigation measures, standard conditions, and project design features have been incorporated into the project and the MND is scheduled for adoption by the City of Newport Beach, in conjunction with the approval of the project.

Section 21081.6 of the Public Resources Code (PRC) and CEQA Guidelines section 15097 require the Lead Agency for each project which is subject to the CEQA to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The PRC requires the Lead Agency to adopt a monitoring and reporting program that is designed to ensure compliance during project implementation. In accordance with PRC Section 21081.6 and CEQA Guidelines Section 15097, this Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the Newport Beach Country Club project. Table 1 lists the mitigation measures, standard conditions, responsible parties, time frame for implementation, and monitoring parties.

Table 1

MITIGATION MONITORING AND REPORTING PROGRAM

(All references to the golf course or golf clubhouse are reserved for future consideration)

Notations:
SC: Standard Condition
PDF: Project Design Feature
MM: Mitigation Measure

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
Aesthetics					
SC-1	Prior to the issuance of building permits, the applicant shall prepare a photometric study in conjunction with a final lighting plan for approval by the Planning Division. The site shall not be excessively illuminated based on the luminance recommendations of the Illuminating Engineering Society of North America, or, if in the opinion of the Planning Director, the illumination creates an unacceptable negative impact on surrounding land uses or environmental resources. The Planning Director may order the dimming of light sources or other remediation upon finding that the site is excessively illuminated.	Approval of photometric study	Prior to issuance of building permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 3	Planning Division
Agricultural and Forest Resources					
No significant impacts are anticipated and no mitigation measures are required.					
Air Quality					
SC-2	Adherence to SCAQMD Rule 402, which prohibits air contaminants or other materials that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property to be emitted within the SoCAB.	Periodic monitoring during construction	During construction activities	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Community Development Department
SC-3	Adherence to SCAQMD Rule 403, which sets requirements for dust control associated with grading and construction activities.	Periodic monitoring during construction	During construction activities	Tennis Club Site: Phases 1-4 Golf Club	Community Development Department

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
				Site: Phases 1-4	
SC-4	Adherence to SCAQMD Rules 431.1 and 431.2, which require the use of low sulfur fuel for stationary construction equipment.	Periodic monitoring during construction	During construction activities	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Community Development Department
SC-5	Adherence to SCAQMD Rule 1108, which sets limitations on ROG content in asphalt.	Periodic monitoring during construction	During construction activities	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Community Development Department
SC-6	Adherence to SCAQMD Rule 1113, which sets limitations on ROG content in architectural coatings.	Periodic monitoring during construction	During construction activities	Tennis Club Site: Phases 2-4 Golf Club Site: Phases 2-4	Community Development Department
SC-7	Adherence to Title 24 energy-efficient design requirements as well as the provision of window glazing, wall insulation, and efficient ventilation methods in accordance with the requirements of the Uniform Building Code.	Submit evidence of compliance during building plan check process	Prior to issuance of building permits	Tennis Club Site: Phases 2-4 Golf Club Site: Phases 3-4	Building Division
Biological Resources					
No significant impacts to biological resources are anticipated; no mitigation measures are required.					
Cultural Resources					
SC-8	A qualified archaeological/paleontological monitor shall be retained by the project applicant who will be present during the grading and landform alteration phase. In the event that cultural resources and/or fossils are encountered during construction activities, ground-disturbing excavations in the vicinity of the discovery shall be redirected or halted by the monitor until the find has been salvaged. The area surrounding any cultural materials or fossils encountered during grading shall also be investigated to determine the extent of the site. Any artifacts and/or fossils discovered during project construction shall be prepared to a point of identification and stabilized for long-term storage. Any discovery, along with supporting documentation	Submit proof of qualified archaeological/ paleontological monitor	Prior to issuance of grading permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 1	Planning Division

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
	and an itemized catalogue, shall be accessioned into the collections of a suitable repository. Curation costs to accession any collections shall be the responsibility of the project applicant.				
MM-1	The City shall provide an opportunity for a Native American representative to monitor excavation activities. The representative shall be determined by the City based on input from concerned Native American tribes (i.e., Gabrielino, Juaneño, and Tongvas).	Submit proof of Native American observer	Prior to issuance of grading permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 1	Planning Division
	Geology and Soils				
SC-9	All grading operations and construction shall comply with the applicable City of Newport Beach Grading Code and Grading Manual and the most recent version of the California Building Code.	Periodic monitoring during grading and construction	During grading and construction operations	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Building Division
SC-10	Prior to issuance of the grading permit, an erosion control plan shall be submitted to and approved by the City's Building Division.	Approval of erosion control plan	Prior to issuance of grading permit	Tennis Club Site: Phases 1-3 Golf Club Site: Phases 1-4	Building Division
SC-11	Prior to issuance of a grading permit, the applicant shall submit a soil engineering report and final geotechnical report to the City's Building Division for approval.	Submittal of soils engineering report and final geotechnical report	Prior to issuance of grading permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 2	Building Division
MM-2	The project shall be designed to incorporate the recommendations included in "Revised Preliminary Geotechnical Design Parameters for the NBCC Planned Community" (April 25, 2008) and "Report of Geotechnical Studies and Review of Vesting Tentative Tract Map No. 15347" (May 2, 2008) prepared by GMU Geotechnical that address site grading, site clearing, compaction, bearing capacity and settlement, lateral pressures, footing design, seismic design, slabs on grade, retaining wall design, subdrain design, concrete, surface drainage, landscape maintenance, etc. The Building Division shall review the grading plan to ensure conformance with recommendations contained in the final geotechnical report.	Submittal of geotechnical reports	Prior to issuance of grading permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 1	Building Division

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
	Greenhouse Gas Emissions				
SC-12	All new buildings shall meet Title 24 requirements.	Submit evidence of compliance during building plan check process	Prior to issuance of building permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 3	Building Division
SC-13	Water conservation design features shall be incorporated into building and landscape designs.	Submit evidence of compliance	Prior to issuance of building permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 2	Planning Division and Public Works Department
PDF-1	Design of buildings shall take into account the location of building air intake to maximize ventilation efficiency and incorporate natural ventilation.	Submit evidence of compliance during plan check process	Prior to issuance of building permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 2	Building Division
PDF-2	The buildings shall incorporate energy-conserving heating and lighting systems.	Submit evidence of compliance during building plan check process	Prior to issuance of building permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 2	Building Division
PDF-3	The project shall incorporate fast-growing, low water use landscape to enhance carbon sequestration and reduce water use.	Submit evidence of compliance during landscape plan review and upon field verification	Prior to issuance of building permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 2	Planning Division and Public Works Department
	Hazards and Hazardous Materials				
SC-14	Prior to any disturbance of the construction materials within the Golf Clubhouse and/or the Tennis Clubhouse, a comprehensive asbestos containing materials (ACM) and lead based paint (LBP) survey shall be conducted. Any repairs, renovations, removal or demolition activities that will impact the ACM and/or LBP or inaccessible ACM	Submit ACM and LBP survey and site inspection	Prior to issuance of demolition permit for buildings	Tennis Club Site: Phase 2 Golf Club Site: Phase 3	Building Division

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
	shall be performed by a licensed asbestos contractor. Inaccessible suspect ACM shall be tested prior to demolition or renovation. Proper safety procedures for the handling of suspect ACM and LBP shall be followed in accordance with federal, state and local regulatory requirements federal and California Occupation Safety and Health Administration (OSHA), and Air Quality Management District (AQMD) Rule 1403, which sets forth specific procedures and requirements related to demolition activities involving asbestos containing materials and SCAQMD Regulation X - National Emission Standards For Hazardous Air Pollutants, Subpart M - National Emission Standards For Asbestos, which include demolition activities involving asbestos.				
SC-15	During demolition, grading, and excavation, workers shall comply with the requirements of Title 8 of the California Code of Regulations Section 1532.1, which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead. Lead-contaminated debris and other wastes shall be managed and disposed of in accordance with the applicable provision of the California Health and Safety Code.	Periodic monitoring during demolition and site inspection	During demolition, grading and excavation	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Building Division
	Hydrology and Water Quality				
SC-16	Prior to issuance of a grading permit, the project applicant shall be required to submit a notice of intent (NOI) with the appropriate fees to the State Water Quality Resources Control Board for coverage of such future projects under the General Construction Activity Storm Water Runoff Permit prior to initiation of construction activity at a future site. As required by the NPDES permit, a Storm Water Pollution and Prevention Plan (SWPPP) will be prepared and will establish BMPs in order to reduce sedimentation and erosion.	Submit evidence of NOI filing	Prior to issuance of grading permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 1	Building Division and Public Works Department
SC-17	Prior to issuance of a grading permit, the project applicant shall prepare a Water Quality Management Plan (WQMP) for the project and submit the WQMP to the City of Newport Beach for approval. The WQMP shall specifically identify Best Management Practices (BMPs) that will be used to control predictable pollutant runoff, including flow/volume-based measures to treat the "first flush." The WQMP shall identify at a minimum the routine structural and non-structural measures specified in the Countywide NPDES Drainage Area Master Plan (DAMP), which details implementation of the BMPs whenever they are applicable to a project, the assignment of long-term maintenance responsibilities, and shall reference the locations of structural BMPs.	Approval of WQMP	Prior to issuance of grading permit	Tennis Club Site: Phase 2 Golf Club Site: Phase 1	Building Division and Public Works Department
SC-	Prior to issuance of a grading permit, the project	Submit	Prior to	Tennis	Building

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
18	applicant shall prepare a Storm Water Pollution and Prevention Plan (SWPPP). The SWPPP will establish BMPs in order to reduce sedimentation and erosion and prevent construction pollutants from leaving the site. The project shall also incorporate all monitoring elements as required in the General Construction Permit. The project applicant shall also develop an erosion and sediment control plan to be reviewed and approved by the City of Newport Beach prior to issuance of grading permit.	SWPPP Approval of erosion and sediment control plan	issuance of grading permit	Club Site: Phase 2 Golf Club Site: Phase 1	Division and Public Works Department
SC-19	Future site grading and construction shall comply with the drainage controls imposed by the applicable building code requirements prescribed by the City of Newport Beach.	Submit evidence of compliance and site inspection	During grading and construction activities	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Building Division and Public Works Department
Land Use and Planning					
No significant impacts are anticipated and no mitigation measures are required.					
Mineral Resources					
No significant impacts are anticipated and no mitigation measures are required.					
Noise					
MM-3	During rock crushing operations, a temporary barrier using a pile of accumulated demolition debris or a sound blanket shall be used if a direct line of sight exists between the crusher and any off-site homes.	Show on grading plans and site inspection	During rock crushing operations	Tennis Club: Phases 1-4 Golf Club Site: Phases 1-4	Building Division
MM-4	All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.	Show on grading plans and site inspection	During construction activities	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Building Division
MM-5	Prior to issuance of a grading permit, a construction schedule shall be developed that minimizes potential project-related and cumulative construction noise levels.	Submit construction schedule and site inspection	Prior to issuance of grading permit	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Community Development Department

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
MM-6	The construction contractor shall notify the residents of the construction schedule for the proposed project, and shall keep them informed on any changes to the schedule. The notification shall also identify the name and phone number of a contact person in case of complaints. The contact person shall take all reasonable steps to resolve the complaint.	Submit evidence of compliance and site inspection	Prior to issuance of grading permit	Tennis Club Site: Phases 1-4 Golf Club Site: Phases 1-4	Building Division
MM-7	Heating, venting, and air conditioning (HVAC) equipment in or adjacent to residential areas shall be shown by computation, based on the sound rating of the proposed equipment, not to exceed an A-weighted sound pressure level of fifty (50) dBA or not to exceed an A-weighted sound pressure level of fifty-five (55) dBA.	Submit evidence of HVAC equipment sound rating (adjacent to residential areas) during building plan check process	Prior to issuance of building permit	Tennis Club Site: Phases 2-4 Golf Club Site: Phases 2-4	Community Development Department
Population and Housing					
No significant impacts are anticipated and no mitigation measures are required.					
Public Services					
No significant impacts are anticipated and no mitigation measures are required.					
Recreation					
No significant impacts are anticipated and no mitigation measures are required.					
Transportation/Traffic					
MM-8	Prior to commencement of each major phase of construction, the Contractor shall submit a construction staging, parking and traffic control plan for approval by the Public Works Department, which shall address issues pertaining to potential traffic conflicts during peak traffic periods, potential displacement of on-street parking, and safety. This plan shall identify the proposed construction staging area(s), construction crew parking area(s), estimated number and types of vehicles that will occur during each phase, the proposed arrival/departure routes and operational safeguards (e.g. flagmen, barricades, etc.) and hourly restrictions, if necessary, to avoid traffic conflicts during peak traffic periods and to ensure safety. If necessary, the construction staging, parking and traffic control plan shall provide for an off-site parking lot for construction crews which will be shuttled to and from the project site at the beginning and end of each day. The plan shall identify all	Approval of construction staging, parking and traffic control plan	Prior to commencement of each major phase of construction	Tennis Club Site: Phase 1-4 Golf Club Site: Phases 1-4	Planning Division and Public Works Department

SC/ PDF/ MM No.	Mitigation Measure	Method of Verification	Timing of Implementation	Applicable Phase(s)	Responsibility
	construction traffic routes. The approved construction staging, parking traffic control plan shall be implemented throughout each major construction phase.				
MM-9	The left turn pocket on Irvine Terrace at the Coast Highway shall be increased in length to a minimum of 100 feet plus transition in order to adequately accommodate left-turn movements.	Construct improvement or provide equivalent bonds	Prior to issuance of building permit	Golf Club Site: Phase 3	Public Works Department
Utilities and Service Systems					
No significant impacts are anticipated and no mitigation measures are required.					

Errata for the IS/MND

Newport Beach Country Club (PA 2005-140)
Golf Realty Fund

1. Page 4: Column 4 (Height (ft.)) under "Building Heights" in Table 2 (Summary of Proposed Uses) to reflect a maximum building height

   Change 50 feet to 53' 6" for the proposed Golf Course Clubhouse.

2. Page 5: Delete all of the text and replace it with the following:

The project site encompasses approximately 145 acres (refer to Table A), which are divided into four sub-areas identified below. Each sub-area as well as the hand car wash is described below and illustrated on Exhibit 2.

Table A
Land Use Allocations

Newport Beach Country Club Planned Community District Plan
Golf Realty Fund

Sub Area	Approximate Area (Acres)
The Tennis Club Sub-Area	4.62
The Villas Sub-Area	1.25
The Bungalows Sub-Area	3.44
The Golf Club Sub-Area[1]	133.01
Total	**±145**

[1]Includes Golf Clubhouse, Golf Parking Lot and Hand Car Wash

SOURCE: Newport Beach Country Club Planned Community District Plan (July 12, 2010)

Golf Clubhouse

The golf clubhouse floor plan has a maximum of 35,000 gross square feet, exclusive of below grade cart storage, in two stories, including approximately 18,100 square feet on the first floor and approximately 16,900 square feet on the second floor. The lower floor will accommodate the following features: Grill, women's lounge and locker room, men's locker room, and pro shop. Other features included on the first floor include a cart barn

and club storage. The second floor will accommodate a banquet room and kitchen, dining room, lounge, foyer, offices, private meeting and dining rooms, and a "19th hole." Other features which currently exist and will continue to be part of the clubhouse facilities include a snack stand (180 square feet), existing golf course restroom facilities, and existing greens keeper buildings and area. The maximum height of the proposed golf clubhouse is 53 feet 6 inches, measured from the existing grade to the mid-point of the sloped roof. (The reference to a maximum 50-foot height limit reflected in Table 1 on page 4 of the initial study referenced in this comment is incorrect and will be revised to reflect the 53 feet 6-inch maximum height noted in this description.)

Tennis Clubhouse and Courts

The maximum floor area of the tennis clubhouse is 3,725 gross square feet and will have a maximum building height of 30 feet (measured from the existing grade to the peak of the roof). The tennis clubhouse includes a lobby, pro shop, office and locker rooms. A total of seven tennis courts, including one stadium court will replace the 24 tennis courts that currently exist on the subject property. Screening for the tennis courts from The Villas E will also be provided in the form of a five-foot block wall that would be designed to be compatible with the proposed Villa E, adjacent to the tennis courts. In addition, the exterior perimeter of the tennis courts facing the Granville Condominiums, Granville Drive, and the Tennis Club parking lot will also be screened, utilizing the existing 10-foot high chain link fence covered by a wind screen.

Bungalows

The Bungalows proposed by the applicant will consist of 27 "hotel" units that encompass approximately 29,044 square feet of floor area. A 2,170 square foot Concierge and Guest Center is also included in this development component. In addition, the Bungalow Spa, which is an auxiliary use for and part of the Bungalows, encompasses 7,490 square feet. This facility will include a fitness center, spa, spa bar and lounge. Other features include a Zen Garden, Jacuzzi and swimming pool. The pool and/or spa equipment will be enclosed by five-foot block wall. The maximum building height of the Bungalows is 31 feet, measured from the existing grade to the peak of the roof.

Villas

The five Villas are proposed within a 1.25-acre sub-area. Lot sizes of the single-family detached residential dwelling lots will vary from 5,295 square feet (Villa A) to 17,151 (Villa D) square feet. Homes will range in size from 2,201 square feet (Plan A) to 6,384 square feet (Plan D). The maximum building heights (measured from existing grade) permitted for the Villas ranges from 23 feet (Villa A) to 39 feet (Villa D). Swimming pools are also permitted for each of the five Villas.

Golf Club Parking Lot and Private Hand Car Wash

The proposed Golf Club Parking Lot has 300 on-site parking spaces. In addition, as described in Response to Comment No. 4 of The Irvine Company, above, an existing perpetual offsite Parking Agreement will continue to provide as many as 554 non-exclusive parking spaces on weekends and holidays to supplement the onsite Golf Club parking. The frontage road that exists adjacent to East Coast Highway will be eliminated and replaced with landscaping. In addition, a private hand car wash area is proposed within the parking lot in the vicinity of Country Club Drive. The area identified to accommodate this project feature encompasses approximately 240 square feet (i.e., 12 feet wide and 20 feet long). Use of the private hand car wash is limited to golf and possibly tennis club members only.

3. Page 8, Table 2:

Delete Table 2 and replace it with the revised Table 2 below.

Table 2

Tennis Club Development Phasing

Phase	Description	Duration (Months)	MND Exhibit Reference	Revised Phasing Plan (5/25/11)
1	Installation of Temporary Modular Tennis Clubhouse[1]	1	4	1
	Demolition of Tennis Club building, 9 tennis courts, perimeter tennis court fence remains, portion of Tennis Club parking lot (61 parking spaces), landscaping and small portion of existing site wall	1	4	2
2	Construct The Villas (3), Private Street, New Tennis Clubhouse and Parking Lots (refer to Exhibit 6)	14	6	4
	Demolition of 3 tennis courts, small portion of Tennis Club parking lot and remaining Tennis Club Building	1	5	3
3	Construct Center Court area and Bungalow Pool	3	8	6
	Demolition of 3 tennis courts, remaining portion of old Tennis Club parking lot and removal of Temporary Modular Tennis Clubhouse	1	7	5
4	Demolition of 2 tennis courts, and perimeter tennis court fence in front of the 3 completed Villas – After substantial completion of the Golf Bungalows removal of perimeter tennis court fence in front of the Golf Bungalows.	1	9	7
	Construct Golf and Tennis Bungalows and remaining 2 Villas.	15	10	8
	Total Schedule	**36**		

[1]Anticipated Start date is September 2011

SOURCE: The Templeton Planning Group (May 2011)

4. Page 16, Table 3:

Delete Table 3 and replace with Table 3 below.

Table 3
Golf Clubhouse Development Phasing

Phase	Description	Duration (Months)	MND Exhibit Reference
1	Demolition of East Side Golf Clubhouse Parking Lot and PCH Entry[1]	1	11
	Construct East Side Parking Lot and PCH Entry[2]	4	12
2	Demolition of West Side Golf Clubhouse Parking Lot	1	13
	Construct West Side Parking Lot and Temporary Golf Club	6	14
3	Demolition of Golf Clubhouse	2	15
	Construct New Golf Clubhouse	14	16
4	Demolition of portion of Greenskeeper Area, Temporary modular Golf Clubhouse and northern portion of Golf Clubhouse Parking Lot	2	17
	Construct Greenskeeper Area and Golf Porte Cache and Parking	4	18
	Total Schedule	34	

[1]Start date to be determined.

[2]Includes car wash.

SOURCE: The Templeton Planning Group (July 2010)

5. Page 39, Paragraph 2:

Change 50 feet to 53' 6" in Line 5 and Line 7.

6. Page 52, SC-8:

Revise SC-8 as indicated below:

SC-8 A qualified archaeological/paleontological monitor shall be retained by the project applicant who will be available during the grading and landform alteration phase. In the event cultural resources and/or fossils are encountered during construction activities, ground-disturbing excavations in the vicinity of the discovery shall be redirected or halted by the monitor until the find has been salvaged. The area surrounding any cultural materials or fossils encountered during grading shall also be investigated to determine the extent of the site. Any artifacts and/or fossils discovered during project construction shall be prepared to a point of identification and stabilized for long-term storage. Any discovery, along with supporting documentation and an itemized catalogue, shall be accessioned into the collections of a suitable repository. Curation costs to accession any collections shall be the responsibility of the project applicant.

7. Page 77, Table 10 (General Plan Policy Analysis): Policy LU 5.3.3:

Change 50 feet in Line 12 and Line 14 in Column 3 to 53' 6".

8. Page 80: Revise the consistency analysis for Natural Resources Element Policy No. 18.3 as follows:

~~Because implementation~~Implementation of the proposed project does not requires the approval of an amendment to the Land Use Element of the Newport General Plan and the project~~, it~~ is not, therefore, subject to the provisions of SB 18, which requires consultation with Native American representatives before adopting or amending a general plan. Nonetheless, t~~T~~he City has ~~complied with the requirements of SB 18 by submitting~~ submitted a request to the Native American Heritage Commission (NAHC)~~. In addition, the City~~and has also sent letters to the Native American representatives, informing each of the proposed project. However, no response was received by the City from any of the Native American representativesons requesting consultation ~~within the 90-day statutory period~~.

9. Page 82, Table 11 (Coastal Land Use Plan Policy Analysis): Policy 2.1.2.1:

Revised the consistency analysis in Column 3 to read:

The proposed project is consistent with the land use designation on the adopted Coastal Land Use Plan, which designates the golf course site ~~OS (Open Space)~~PR (Parks and Recreation) and the tennis site MU-H/PR (Mixed Use Horizontal/Parks & Recreation). The ~~Open Space~~Parks and Recreation designation allows golf courses. The MU-H/PR designation allows horizontally-distributed mix of uses, which may include general or neighborhood commercial, commercial offices, multi-family residential, visitor-serving and marine-related uses, buildings that vertically integrate residential with commercial uses, and active public or private recreational uses, including parks, golf courses, marina

support facilities, aquatic facilities, tennis clubs and courts, private recreation, and similar facilities. In addition, the project addresses the relevant policies related to development of the site and the protection of coastal resources identified in the CLUP as discussed in this table.

10. Page 96, Second sentence in the paragraph under (c):

Change 50 feet in Line 3 to 53' 6".