Draft
Initial Study
Mitigated Negative Declaration
Paseo de Valencia Widening Project

Prepared for:

City of Laguna Hills
Department of Public Works
24035 El Toro Road
Laguna Hills, CA 92653

Prepared by:

CHAMBERS GROUP, INC.
5 Hutton Centre Drive, Suite 750
Santa Ana, California 92707
(949) 261-5414

January 2014

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CITY OF LAGUNA HILLS
DEPARTMENT OF PUBLIC WORKS

DRAFT MITIGATED NEGATIVE DECLARATION FOR PASEO DE VALENCIA WIDENING PROJECT

I. Location and Brief Project Description

The City of Laguna Hills (project proponent) is proposing to widen Paseo de Valencia between Kennington Drive and Laguna Hills Drive. The length of proposed improvements along Paseo de Valencia is approximately 2,200 feet or approximately 0.4 miles. The western edge of Paseo de Valencia forms the corporate boundary between the cities of Laguna Hills and Laguna Woods. The project would not require any physical changes to occur within Laguna Woods.

The existing layout of Paseo de Valencia within the project study area consists of two southbound lanes and three northbound lanes. The project is consistent with the City's General Plan to convert Paseo de Valencia to a major arterial and to correct the current lane imbalance in anticipation of future traffic demands. The City defines major arterials as six-lane divided roadways. The project will provide one additional southbound lane. To make room for the third southbound lane, Paseo de Valencia will be widened along the east side of the street within the open space area that is known as Aliso Creek Riding and Hiking Trail.

Other project improvements include median reconstruction, minor sidewalk reconstruction, providing a new sidewalk on the southbound direction, new Class II bike path on the northbound direction and landscaping.

The project location is shown on Exhibits 1 and 2 of the attached Initial Study. The project does not involve a site included on a list compiled pursuant to Government Code Section 65962.5.

II. Mitigation Measures Included in the Project to Avoid Potentially Significant Effects

No significant environmental effects were identified. However, mitigation measures are identified in Section V of the attached Initial Study to avoid potentially significant impacts to cultural resources, geology and soils, and noise. These mitigation measures are:

CR-1 Prior to issuance of grading permit(s) for the project, the City shall retain a paleontological monitor to monitor all ground-disturbing activities to identify any unknown paleontological resources. Any newly discovered paleontological resource deposits shall be subject to a paleontological resources evaluation.

CR-2 Prior to issuance of any grading permit, the project paleontological monitor shall file a pre-grading report with the City Engineer to document the proposed methodology for grading activity observation. Said methodology shall include the requirement for a qualified paleontological monitor to be present and to have the authority to stop and redirect grading activities. The paleontological monitor's authority to stop and redirect grading will be exercised in consultation with the City Engineer in order to evaluate the significance of any paleontological resources discovered within the project APE.

GEO-1 The City shall retain a qualified consultant to perform a pre-construction inspection to identify existing damage or distress. The inspection could include photographic documentation, crack measurements, and floor level manometer survey.

GEO-2 The City shall retain a qualified consultant to prepare and submit a work plan for approval by the City prior to commencement of construction. The work plan would classify heavy construction equipment based on the various equipment types presented in Exhibit 12. The work plan must also include appropriate setbacks for construction equipment based on the construction equipment classifications and peak particle velocity thresholds presented in Exhibit 12.

GEO-3 The City would keep nearby residence and property owners informed about the work schedule and activities. The work plan to be submitted by the qualified consultant would include restrictions limiting construction days and hours consistent with the City of Laguna Hills Noise Ordinance, which prohibits noise generated by construction activities between the hours of 8:00 PM and 7:00 AM weekdays and 8:00 PM and 8:00 AM on Saturday, or at any time on Sundays or a federal holiday.

GEO-4 The City shall retain a qualified consultant to install and monitor survey points along the property line and/or within adjacent properties prior to the commencement of construction to document any vertical or horizontal movements of the ground. Detection of vertical or horizontal ground movements would trigger shutdown of construction operations until construction equipment was moved further back to prevent further ground movements.

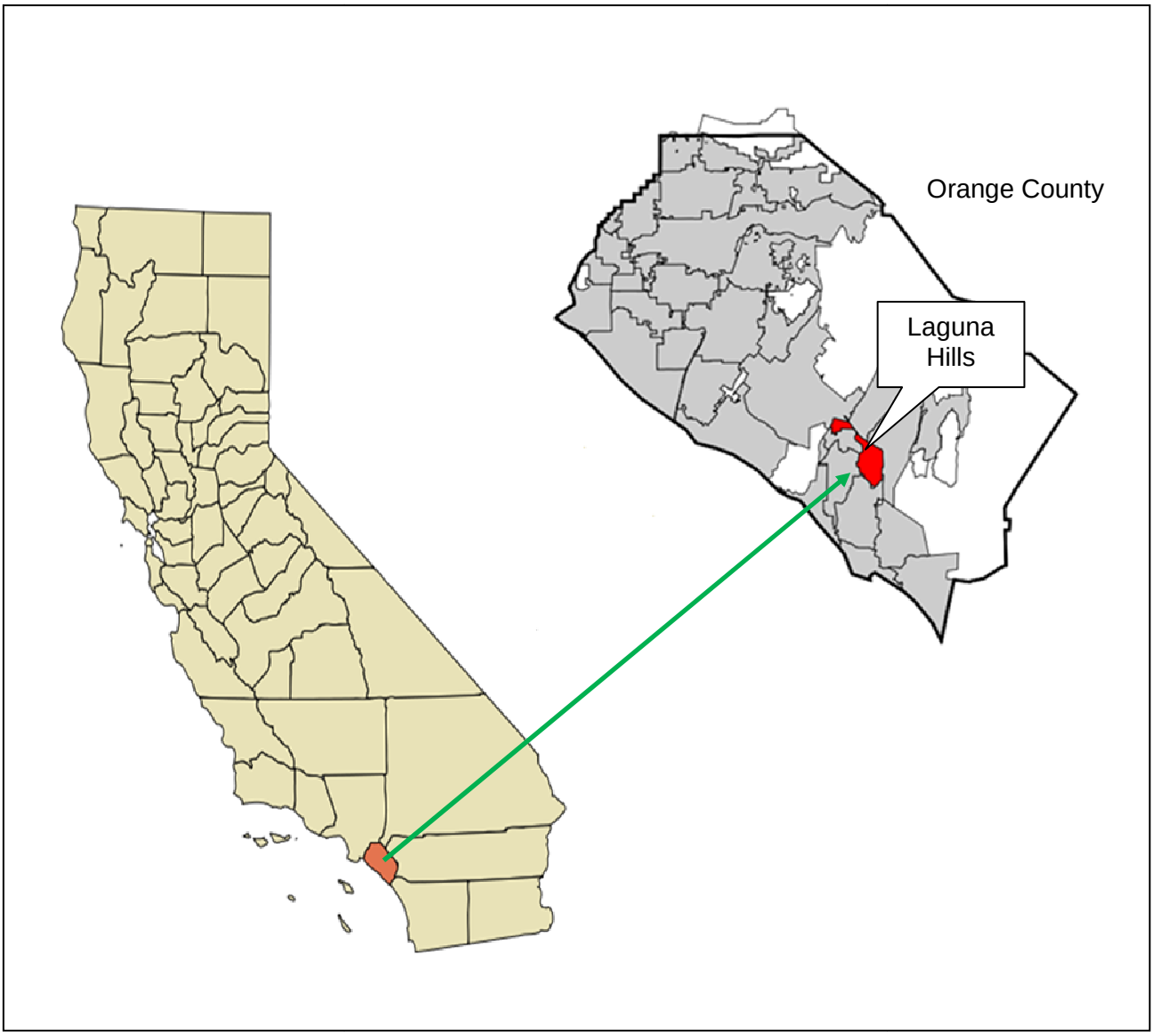
GEO-5 The City shall retain a qualified consultant to to prepare and submit a vibration monitoring plan for approval by the City prior to commencement of construction. The work plan would include installation of vibration monitoring instruments along the property line and/or within the residential properties to monitor peak particle velocities resulting from construction activities. Exceedance of threshold values presented in Exhibit 12 would trigger shutdown of construction operations. Instruments required for monitoring activities would include particle velocity sensors and a digital recorder/data logger.

NOI-1 The City shall retain a qualified consultant to prepare and submit a work plan for approval by the City prior to the commencement of construction. The work plan would stipulate that all equipment is required to have sound-control devices that are no less effective than those provided on the original equipment. The work plan would also stipulate that no equipment shall have an un-muffled exhaust.

NOI-2 The work plan to be prepared by a qualified consultant would require use of appropriate noise reduction measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources. Inclusion of these requirements would be a condition of approval for the work plan.

III. Finding of No Significant Effect

Based on the attached draft Initial Study, it has been determined that the project will not have a significant effect on the environment with the identified mitigation measures incorporated.



No Scale

Exhibit 1: Regional Location Map

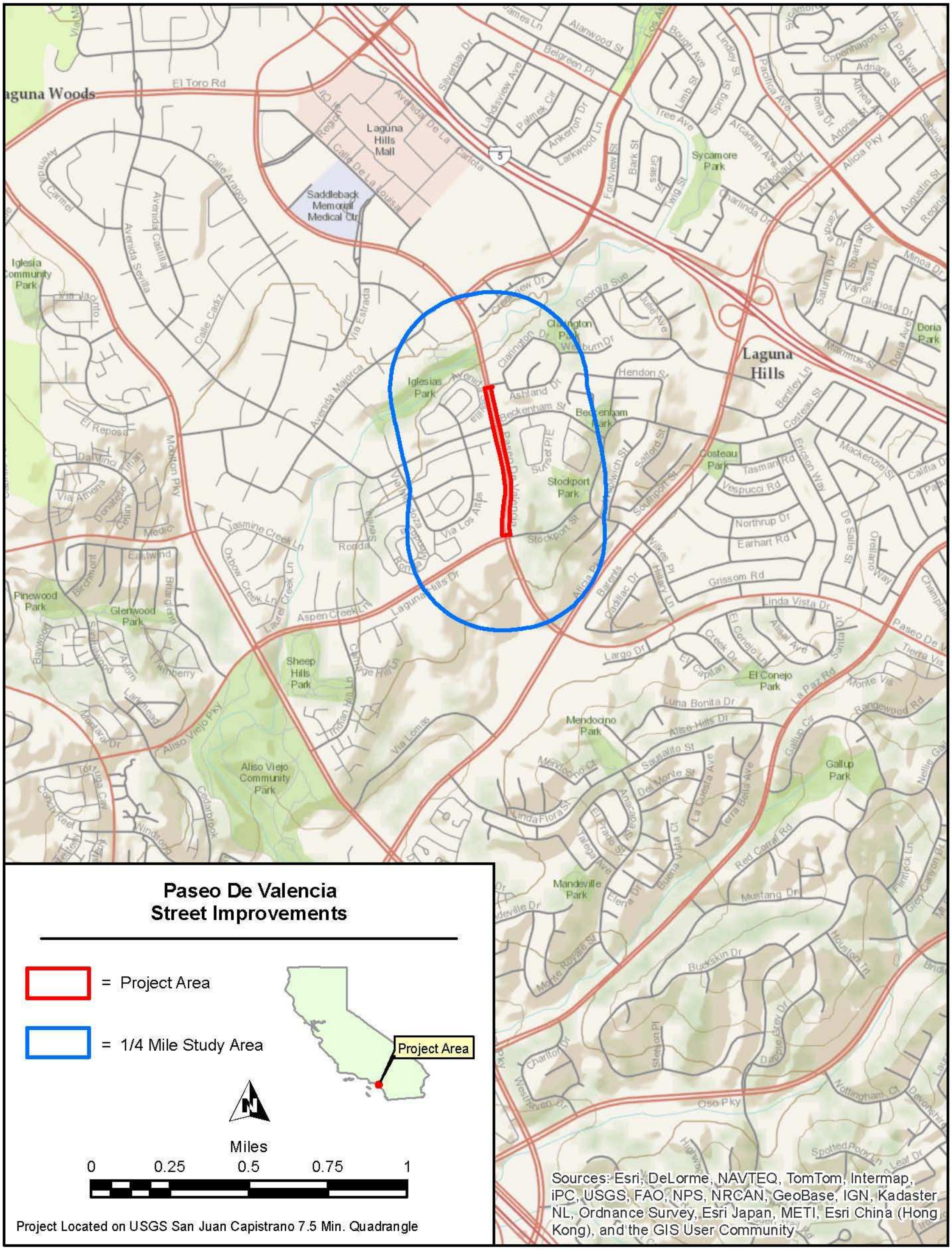


Exhibit 2: Local Vicinity Map

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CITY OF LAGUNA HILLS
INITIAL STUDY AND ENVIRONMENTAL EVALUATION

1. Project Title: Paseo de Valencia Widening Project

2. Lead Agency Name and Address: City of Laguna Hills
24035 El Toro Road
Laguna Hills, CA 92653

3. Project Sponsor's Name and Address: City of Laguna Hills
Department of Public Works
24035 El Toro Road
Laguna Hills, CA 92653

4. Contact Person and Phone Number: Kenneth H. Rosenfield
Director of Public Services and City Engineer
City of Laguna Hills
(949) 707-2655

5. Project Location: Along Paseo de Valencia between Kennington Drive and Laguna Hills Drive. Exhibit 1 shows a Regional Map and Exhibit 2 shows a Local Vicinity Area Map.

6. General Plan Designation: Low and Medium Density Residential, and Village Commercial

7. Zoning Designation: Low and Medium Density Residential and Office Professional

8. Description of Project: The project includes the improvement of Paseo de Valencia between Laguna Hills Drive and Kennington Drive in the City of Laguna Hills (City). The length of proposed improvements along Paseo de Valencia is approximately 2,200 feet or approximately 0.4 miles. The western edge of Paseo de Valencia forms the corporate boundary between the cities of Laguna Hills and Laguna Woods. The proposed project would not require any physical changes to occur within Laguna Woods.

The existing layout of Paseo de Valencia within the project study area consists of two southbound lanes and three northbound lanes. The project is consistent with the City's General Plan to convert Paseo de Valencia to a major arterial and to correct the current lane imbalance in anticipation of future traffic demands. The City defines major arterials as six-lane divided roadways. The project will provide one additional southbound lane. To make room for the third southbound lane, Paseo de Valencia will be widened along the east side of the street within the open space area that is known as the Aliso Creek Riding and Hiking Trail.

Other project improvements include median reconstruction, minor sidewalk reconstruction, providing a new sidewalk on the southbound direction, new Class II bike path on the northbound direction and landscaping.

Exhibits 3 through 5 show the improvements to Paseo de Valencia that are being proposed by the project. The specific components of the proposed project are described below.

The project entails reconstructing the entire width of the Paseo de Valencia roadway with new pavement to provide six lanes of traffic, raised median, sidewalks and Class II bike lanes on each side. All improvements would occur within the City of Laguna Hills right of way. The proposed improvements include:

- Adding a third southbound lane;
- Adding a sidewalk along the southbound lane with a landscaped parkway strip adjacent to the travel way, and trees within tree wells every 50 feet, typically;
- Installing new irrigation lines along the southbound lane to provide water for the landscaped strip adjacent to the travel way, and the trees within tree wells;
- Planting low height landscaping within the landscaped parkway strip adjacent to the sidewalk at the curve in the southbound direction within the landscaped median island in the northbound direction due to sight distance requirements;
- Reconstructing the existing raised median to updated City standards, including relocating the street lights and installing new landscaping and irrigation lines;
- Adding a northbound Class II bike lane;
- Reconfiguring the existing northbound sidewalk to include a landscaped parkway strip adjacent to the northbound travel way and trees in tree wells every 50 feet, typically;
- Realigning the existing Orange County maintained Aliso Creek Riding and Hiking Trail to the east by approximately 10 feet;
- Planting new trees to replace the trees removed within the Aliso Creek Riding and Hiking Trail area;
- Installing new irrigation lines along the northbound lane to provide water for the landscaped parkway strip adjacent to the travel way, the trees within tree wells, and the new trees within the Aliso Creek Riding and Hiking Trail area;
- Adjusting existing utilities to the new grade as needed;
- Adjusting existing drainage facilities to the new grade as needed; and
- Modifying the existing traffic signals at Laguna Hills Drive, Beckenham Street, and Kennington Drive. Additional lights would be added to the traffic signals for the additional travel lanes added by the proposed project. Existing signals would also be moved slightly to accommodate on new roadway widths.

9. Surrounding Land Uses and Setting: The project site is located along Paseo de Valencia from Kennington Drive in the north to Laguna Hills Drive in the south; a distance of approximately 0.40 miles. Please see Exhibit 1(Regional Location Map) and Exhibit 2 (Local Vicinity Map). Paseo de Valencia forms the western corporate boundary of the City of Laguna Hills (City) in the project study area. The City of Laguna Woods is located along the west side of Paseo de Valencia. Residential uses line both sides of Paseo de Valencia in the City and the City of Laguna Woods.

The Aliso Creek Riding and Hiking Trail immediately abuts the east side of Paseo de Valencia within the City. The Aliso Creek Riding and Hiking Trail is an 18.5-mile corridor between South Laguna and Rancho Santa Margarita that is operated by Orange County Parks. Trail activities include bicycling, inline skating, wheelchair accessible, horseback riding, mountain biking, and walking. Within the project study area the landscape corridor is approximately 70 to 80 feet wide and has both asphalt and dirt trails.

In the City of Laguna Woods, the residential uses along the west side of Paseo de Valencia are within Laguna Woods Village. Laguna Woods Village is an age-restricted private community for individuals 55 and over.

10. Other Public Agencies Whose Approval is Required:

Orange County Parks and Recreation would have a discretionary action over realignment of the trail and act as a responsible agency .

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Paseo de Valencia
Street Improvements Between Laguna Hills Drive and Kennington Drive

Page 1 of 3 Version Date: 8/14/2012

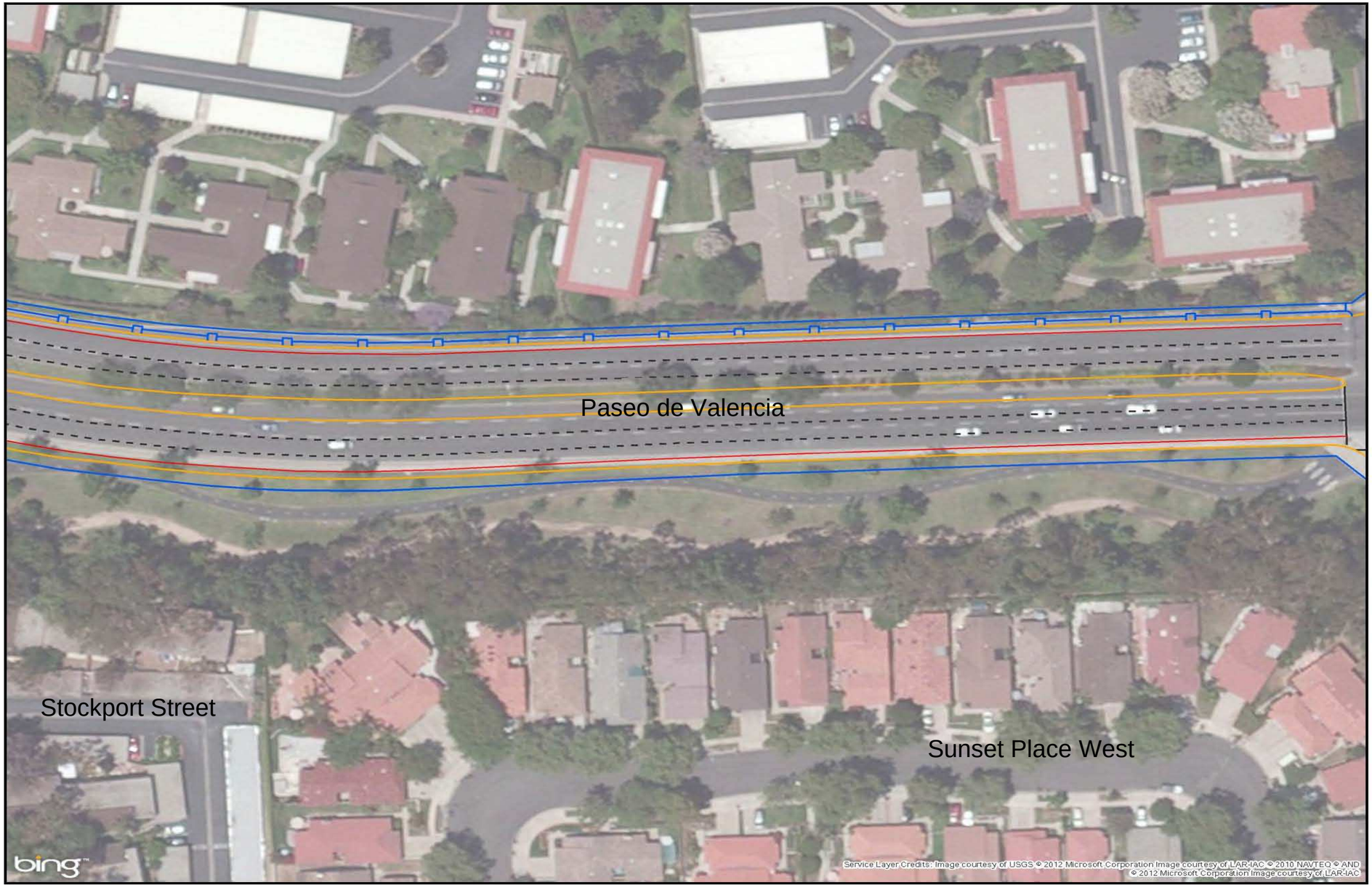
Street Improvements
- Street Lines
- Curb
- Side Walk
- Bike Lane

SCALE=1:800

0 25 50 100
Feet

CHAMBERS GROUP

Exhibit 3: Project Improvements to Paseo de Valencia (Southern Section)



Paseo de Valencia
Street Improvements Between Laguna Hills Drive and Kennington Drive

Page 2 of 3 Version Date: 8/14/2012

Street Improvements
- Street Lines
- Curb
- Side Walk
- Bike Lane

SCALE=1:800

0 25 50 100
Feet

CHAMBERS GROUP

Exhibit 4: Project Improvements to Paseo de Valencia (Middle Section)

Exhibit 5: Project Improvements to Paseo de Valencia (Northern Section)

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

Determination (*to be completed by the lead agency*):

On the basis of this initial study and environmental evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	✓
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION, pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

Signature

Date

David Chantarangsu
Title: Community Development Director

City of Laguna Hills
For

Evaluation of Environmental Impacts:

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

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

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

4) "Negative Declaration: 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 Section XVII, "Earlier Analyses," may be cross referenced).

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

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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

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

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

9) The 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 significance.

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
I.	**AESTHETICS** Would the project:					
a)	**Have a substantial adverse effect on a scenic vista?**					✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Scenic Resources Map (Figure COS-2))					
	There are five City designated scenic vistas within the City; The Courtyard at La Paz, Mendocino Park, Mandeville Park, and Moulton Ranch Park are located south of the project study area across Alicia Parkway, and Lake Hills Corporate Park is located north of the project study area. The existing tall trees that line both sides of Paseo de Valencia within the project study area effectively block distal views. None of the City designated scenic vistas would be affected by the proposed project features, and those project features would not obstruct views of or from the five designated scenic vistas. Therefore, no impact would occur to scenic vistas.					
b)	**Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?**					✓
	(**Source**: County of Orange Master Plan, Scenic Highway Element, and City of Laguna Hills General Plan, Scenic Resources Map (Figure COS-2))					
	Paseo de Valencia is not designated as a State scenic highway; nor are there views of any designated State scenic highways from the proposed project site. The Scenic Highway Element of the County of Orange Master Plan has designated several streets/roadways within the County as scenic resources and has designated them as either "Viewscape" or "Landscape" corridors. A Viewscape Corridor provides scenic resources that possess aesthetic values that are unique or unusual. The County's Scenic Highway Element does not identify any Viewscape Corridors in the City. A Landscape Corridor is described as a roadway that traverses through a developed area and provides special landscape treatment for a pleasant driving environment as well as community enhancement. There are three roadways in the City that are designated as Landscape Corridors on the City's Scenic Resources Map: Alicia Parkway, La Paz Road, and Oso Parkway. Each of these three roadways is located to the south of the project study area. The closest Landscape Corridor is Alicia Parkway, and it is located approximately ¼-mile south of the southernmost point of the project study area. The proposed project would have no physical affect on any of the three Landscape Corridors. Therefore, no impact would occur to scenic resources within a designated scenic corridor.					
c)	**Substantially degrade the existing visual character or quality of the site and its surroundings?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Open Space and Parklands Map (Figure COS-1), and a site visit July 5, 2012)					

The existing visual character along Paseo de Valencia within the project study area is comprised of non-native landscaping along both sides of the roadway and within the median island. Fairly tall trees and shrubs shield much of the residential structures that line both sides of the street. A photo of the typical existing visual character is shown below.

The Aliso Creek Riding and Hiking Trail immediately abuts the east side of Paseo de Valencia within the project study area. The Aliso Creek Riding and Hiking Trail is an 18.5-mile corridor between South Laguna and Rancho Santa Margarita that is operated by Orange County Parks. Trail activities include bicycling, inline skating, wheelchair accessible, horseback riding, mountain biking, and walking. Within the project study area the landscape corridor is approximately 70 to 80 feet wide and has both asphalt and dirt trails. The Aliso Creek Riding and Hiking Trail area is not designated as open space or a park on the City's Open Space and Parklands Map.

Typical view looking north of Aliso Creek Riding and Hiking Trail
from a point just north of Stockport Street.

The proposed project would have no affect on the existing vegetation along the west side of Paseo de Valencia within the City of Laguna Woods as no physical changes would occur outside the City of Laguna Hills. No native tree species were observed during site inspections within the project study area. Landscaping within the Aliso Creek Riding and Hiking Trail area consists of introduced ornamental trees, shrubs, and turf grass. The widening of Paseo de Valencia along the east side of the street would require the removal of some of the ornamental trees that are currently located between the existing sidewalk and the asphalt surfaced Aliso Creek Riding and Hiking Trail, as shown in exhibits 3, 4, and 5. As part of and in accordance with, the proposed project's final landscaping plans, the ornamental trees, shrubs, and turf grass that are removed during the initial phase of construction would be replaced with ornamental trees, shrubs, and turf grass of an equivalent type and number. Replacement of vegetation removed during construction with an equivalent type and number would also ensure project consistency with Municipal Code Chapter 8-08: Trees and Shrubs in Public Places. Therefore, a less than significant impact would occur to the visual character of Aliso Creek Riding and Hiking Trail.

The widening of Paseo de Valencia along the east side of the street would also encroach into the asphalt surface area of the Aliso Creek Riding and Hiking Trail at those locations where the trail is closest to the existing sidewalk. Final design and construction of the proposed project would include a revised alignment of the asphalt surface of Aliso Creek Riding and Hiking Trail to maintain its existing function. The realigned trail would be the same width as the existing trail and

	be located within the existing right-of-way. Therefore, a less than significant impact would occur to the visual quality of Aliso Creek Riding and Hiking Trail.					

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	Within the project study area there are median islands between Kennington Drive and Beckenham Street, and Beckenham Street and Laguna Hills Drive. The existing medians are landscaped with ornamental trees, shrubs, flowering species, and turf grass. In addition, there is a decorative wooden rail fence with stone posts just north of Laguna Hills Drive. The proposed project would remove the existing medians between Kennington Drive and Beckenham Street, and Beckenham Street and Laguna Hills Drive. The proposed project would replace the medians of similar size with the new medians located slightly to the east of, their current locations, as shown in exhibits 3, 4, and 5, which is necessary to provide the space needed to construct the third southbound lane. As part of, and in accordance with the proposed project's final landscaping plans, the ornamental trees, shrubs, and flowering plants that are removed during the initial phase of construction would be replaced with ornamental trees, shrubs, and flowering plants of an equivalent type and number. Therefore, a less than significant impact would occur to the visual character and quality of the median islands within Paseo de Valencia.					
d)	**Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**					✓
	(**Source**: Site visit July 5, 2012)					
	Existing fixed sources of light along Paseo de Valencia within the project study area are the street lights located within the median islands and at intersections. There are no reflective surfaces in the project study area that are a source of glare. The proposed project would relocate the existing street lights to the new median locations. These relocated street lights would be similar in nature to the existing street lights currently located at the intersections within the project study area. The proposed project would not introduce any new source of substantial light or glare. Therefore, no impact would occur.					
II.	**AGRICULTURE AND FOREST RESOURCES**					
	In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. 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:					

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?**					✓
	(**Source**: City of Laguna Hills General Plan, Land Use Map)					
	The proposed project would not affect farmland because there are no areas in the City that are designated for agricultural use. Therefore, no impact would occur.					
b)	**Conflict with existing zoning for agricultural use, or a Williamson Act contract?**					✓
	(**Source**: City of Laguna Hills Zoning Districts Map and Land Use Map)					
	The proposed project would not affect agricultural uses because there are no areas in the City that are zoned or designated for agricultural use. Thus, there are no Williamson Act contracts on lands within the City. Therefore, no impact would occur.					
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))?**					✓
	(**Source**: City of Laguna Hills Zoning Districts Map and Land Use Map)					
	The proposed project would not affect forest land, timberland, or Timberland Production because there are no areas in the City that are zoned or designated for these uses. Therefore, no impact would occur.					
d)	**Result in the loss of forest land or conversion of forest land to non-forest use?**					✓
	(**Source**: City of Laguna Hills Zoning Districts Map and Land Use Map)					
	The proposed project would not affect forest land because there are no areas in the City that are zoned or designated for this use. Therefore, no impact would occur.					
e)	**Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?**					✓
	(**Source**: City of Laguna Hills Zoning Districts Map and Land Use Map)					

	The proposed project would not affect farmland or forest land because there are no areas in the City that are zoned or designated for these uses. Therefore, no impact would occur.					
III.	**AIR QUALITY**					
	Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a)	**Conflict with or obstruct implementation of the applicable air quality plan?**					✓
	(**Source**: City of Laguna Hills General Plan, 2009; South Coast Air Quality Management District's Air Quality Management Plan, 2007and 2012 Plan as updated by South Coast Air Quality Management District February 2013)					
	The proposed project is within the South Coast Air Basin (SCAB), a territory defined by the California Air Resources Board (CARB) for air quality planning purposes that spans a 6,600 square mile area comprised of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The applicable air quality planning regulations for the SCAB are contained in a regional Air Quality Management Plan (AQMP), prepared by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG). The proposed project would not result in an increase in population, employment, or housing. Therefore, the proposed project does not have the potential to substantially affect population, employment, and housing projections within the Southern California region, which is the basis of the AQMP projections. The proposed project is not a regionally significant project that would warrant Intergovernmental Review by the SCAG. Therefore, no impact would occur.					
b)	**Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**				✓	
	(**Source**: South Coast Air Quality Management District CEQA Regional Significance Thresholds, CalEEMod)					
	Air quality impacts from the proposed project can be divided into two types: short-term impacts and long-term impacts. Short-term impacts are associated with construction activities, and long-term impacts are those resulting from the continued operation of the proposed uses and the associated increase in vehicular trips from the proposed use. The SCAQMD developed CEQA Regional Significance Thresholds for evaluating potential significant air quality impacts. It is appropriate to use these thresholds in this case, since the project study area is located within the SCAB and under the jurisdiction of the SCAQMD. Construction activities would result in the temporary, short-term generation of air pollutants. These emissions would primarily be 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles travelling to and from the project site and 4) off-gas emissions of volatile organic compounds (VOCs) from application of asphalt, paints, and coatings. Emissions would vary from day to day, depending on the level of activity, the specific type of construction activity occurring, and, for fugitive dust, the prevailing weather conditions.					

Since detailed construction design information was not available at the time this document was prepared, the construction emissions were estimated using construction schedule and equipment usage for a typical roadway widening construction project. For the purpose of this analysis, the following assumptions were made: 1) the site preparation phase would be 10 working days; 2) the grading phase would be 20 working days; 3) the paving phase would be 20 working days; 4) the work week would be five days; 5) the operating year would be 2014; 6) the construction would occur during summer months; and 7) a default mix of construction equipment would be utilized.

For the purpose of estimating emissions associated with the construction activities, a project time frame of 10 weeks was assumed as this is typical of a roadway widening project of this magnitude. Major construction activities include site preparation, grading and paving. Emissions for the construction period were compiled using the CalEEMod emissions inventory model. The quantity, duration, and intensity of construction activity have an effect on the amount of construction emissions and related pollutant concentrations occurring at any one time. As such, the emission forecasts presented here reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively short time period. Because of this assumption, actual emissions could be far less than what is forecasted here. A conservative estimate of the proposed project's construction emissions is presented in Table III-1.

As shown in Table 1, all criteria pollutant emissions would remain well below their respective thresholds, and no impact would occur. The emissions calculations presented in Table I do not include implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing the speed limit to 15 mph on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers. Implementation of these fugitive dust control measures required by SCAQMD under Rule 403 would further decrease construction emissions below the levels presented in Table 1. Through implementation of these fugitive dust control measures, the proposed project would comply with SCAQMD Rule 403.

In the long term, the proposed street improvement project is designed to meet transportation demands, improve safety, and enhance aesthetics of the area. Operation of the proposed project would not generate any new stationary or mobile sources of emissions, and therefore would not contribute to an increase in criteria pollutants. Therefore, a less than significant impact would occur.

Table III-1 – Regional Construction Emissions

Construction Phase[1]	Criteria Pollutant Emissions (pounds per day)					
	ROG	NO_x	CO	SO_x	PM_{10}[2]	$PM_{2.5}$[2]
Site Preparation	0.27	2.03	1.26	0.00	0.60	0.38
Grading	0.33	2.52	1.70	0.00	0.49	0.27
Paving	0.33	1.75	1.21	0.00	0.16	0.16
Maximum Daily Construction Emissions (lbs/day)	0.33	2.52	1.70	0.00	0.60	0.38
SCAQMD Emissions Threshold (lbs/day)	75	100	550	150	150	55
Exceed Threshold?	NO	NO	NO	NO	NO	NO

Source: CalEEMod Version 2011.1.1.

Notes:

[1] Where specific construction information was not available, construction assumptions were based on CalEEMod defaults.

[2] Does not include implementation of fugitive dust control measures as required by SCAQMD under Rule 403.

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
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)?**				✓	
	(**Source**: City of Laguna Hills General Plan, 2009; 2011 Area Designations for State Ambient Air Quality Standards - Nitrogen Dioxide; South Coast Air Quality Management District Air Quality Management Plan, 2007; South Coast Air Quality Management District CEQA Air Quality Handbook, 1993; CalEEMod, and CalEEMod 2013 provides guidance for CEQA construction projects which take over where SCAQMD CEQA Guidance left off in 1993.)					
	Laguna Hills is located in the SCAB, which consists of four counties: San Bernardino, Riverside, Los Angeles, and Orange, including some portions of the area once referred to as the Southeast Desert Air Basin. The SCAB is currently designated as a non-attainment area under the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS) for O_3, PM_{10}, and $PM_{2.5}$, and designated as a non-attainment area under the CAAQS for NO_2. In the SCAB, the SCAQMD is the agency responsible for the administration of federal and State air quality laws, regulations, and policies. In accordance with SCAQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values does not add to a cumulative impact within the SCAB. Air quality modeling using CalEEMod demonstrates that proposed project-related construction activities would not result in emissions in excess of SCAQMD's threshold values. Therefore, a less than significant impact would occur.					
d)	**Expose sensitive receptors to substantial pollutant concentrations?**				✓	
	(**Source**: South Coast Air Quality Management District CEQA Air Quality Handbook, 1993; CalEEMod)					
	Sensitive receptors refer to locations where uses and/or activities result in increased exposure of persons more sensitive to the unhealthful effects of emissions, such as athletes, children or the elderly. Roadway construction/operation does not normally involve generation of hazardous or toxic air pollutants in substantial concentrations. As described in Section IIIb) above, the CalEEMod model prepared for the proposed project determined that short-term construction emissions would not exceed SCAQMD thresholds for short-term construction impacts. Implementation of fugitive dust control measures described in Section IIIb) would further reduce pollutant concentrations and ensure project consistency with SCAQMD Rule 403. The proposed project would not generate any additional traffic trips and would improve the traffic level of service (LOS) at several intersections and roadway segments (See Section XVIb). The improvements to LOS would reduce the amount of engine idling in the vicinity of the project site, which would reduce local concentrations of carbon monoxide and toxic air contaminants. Therefore, a less than significant impact would occur.					
e)	**Create objectionable odor affecting a substantial number of**				✓	

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	people?					
	(**Source**: South Coast Air Quality Management District CEQA Air Quality Handbook, 1993)					
	While almost any source may emit objectionable odors, some land uses would be more likely to produce odors because of their operation. The type of facilities that are considered to have objectionable odors include wastewater treatment plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations, dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The proposed project would not generate objectionable odors that would lead to a public nuisance as described in SCAQMD Rule 402; therefore, operational impacts would be less than significant and no mitigation measures are necessary. A minimal amount of objectionable odors, such as diesel exhaust from construction equipment and from materials used for paving, would be created during project construction. Any construction-related odor emissions would be temporary, intermittent in nature, and would not constitute a public nuisance. As a result, the proposed project would not expose anyone to objectionable odors on a permanent basis. Therefore, a less than significant impact would occur.					
IV.	**<u>BIOLOGICAL RESOURCES</u>** 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?**					✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Open Space and Parklands Map (Figure COS-1), and a site visit July 5, 2012)					
	The project study area is located within an urbanized area of the City. The nearest natural habitat area is located within Aliso Creek, which crosses under Paseo de Valencia approximately 250 feet north of the project study area. All of the proposed project's physical changes in the environment would occur south of Kennington Drive. Therefore, the proposed project would not have any direct impacts on the natural habitat within Aliso Creek. Additionally, construction of the proposed project would not indirectly impact wildlife species within Aliso Creek. Construction noise would dissipate to lower levels as it traveled 250 feet from the project site to Aliso Creek. Furthermore, Aliso Creek is already subject to elevated noise levels due the existing Paseo de Valencia overcrossing. Therefore, wildlife within Aliso Creek would not be indirectly impacted by project construction. The Aliso Creek Riding and Hiking Trail is located along the eastern side of Paseo de Valencia within the project study area. There is also a landscaped median within the project study area. The landscaping within the project study area is characterized by ornamental plantings, or expanses of nonnative plant species that provide "greenbelts" of vegetative cover and separation between developed areas. Wildlife associated with the vegetation communities that occur within the City is also predominantly nonnative or common native species that have adapted to urban settings. Within the project study area there are no species that are identified as a candidate,					

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	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. Therefore, no impact would occur.				
b)	**Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?**				✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Open Space and Parklands Map (Figure COS-1), and a site visit July 5, 2012)				
	The project study area is located within an urbanized area of the City. The nearest natural habitat area with riparian habitat or other sensitive natural community is located within Aliso Creek, which crosses under Paseo de Valencia approximately 250 feet north of the project study area. All of the proposed project's physical changes in the environment would occur south of Kennington Drive. Therefore, the proposed project would not have any impacts on the natural habitat within Aliso Creek.				
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?**				✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Open Space and Parklands Map (Figure COS-1), and a site visit July 5, 2012)				
	The project study area is located within an urbanized area of the City. The nearest natural habitat area with wetlands habitat is located within Aliso Creek, which crosses under Paseo de Valencia approximately 250 feet north of the project study area. Therefore, the proposed project would not have any impacts on wetlands habitat within Aliso Creek.				
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?**				✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Open Space and Parklands Map (Figure COS-1), and a site visit July 5, 2012)				
	The project study area is located within an urbanized area of the City. The nearest wildlife corridor area is located within Aliso Creek, which crosses under Paseo de Valencia				

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	approximately 250 feet north of the project study area. All of the proposed project's physical changes in the environment would occur south of Kennington Drive. Therefore, the proposed project would not have any impacts on the wildlife corridor area within Aliso Creek.					
e)	**Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element, Open Space and Parklands Map (Figure COS-1), and a site visit July 5, 2012)					
	The proposed project would have no affect on the existing vegetation along the west side of Paseo de Valencia within the City of Laguna Woods as no physical changes would occur outside the City of Laguna Hills. No native tree species were observed during site inspections within the project study area. Landscaping within the Aliso Creek Riding and Hiking Trail area consists of introduced ornamental trees, shrubs, and turf grass. The widening of Paseo de Valencia along the east side of the street would require the removal of 36 ornamental trees (see Appendix A) that are currently located between the existing sidewalk and the asphalt surfaced Aliso Creek Riding and Hiking Trail, as shown in exhibits 3, 4, and 5. Section 8-08.050 of the City of Laguna Hills Municipal Code states that any tree removed from a public place in connection with the widening of a street must be replaced by the city or responsible agency or person. As part of and in accordance with, the proposed project's final landscaping plans the ornamental trees, shrubs, and turf grass that are removed during the initial phase of construction would be replaced with ornamental trees, shrubs, and turf grass of an equivalent type and number. Therefore, the proposed project would be consistent with the City of Laguna Hills Municipal Code and a less than significant impact would occur. Within the project study area there are median islands between Kennington Drive and Beckenham Street, and Beckenham Street and Laguna Hills Drive. The existing medians are landscaped with ornamental trees, shrubs, flowering species, and turf grass. In addition, there is a decorative wooden rail fence with stone posts just north of Laguna Hills Drive. The proposed project would remove the existing medians between Kennington Drive and Beckenham Street, and Beckenham Street and Laguna Hills Drive. The proposed project would replace the medians with new medians that are slightly to the east of their current locations, as shown in exhibits 3, 4, and 5, which is necessary to provide the space needed to construct the third southbound lane. As part of and in accordance with the proposed project's final landscaping plans the ornamental trees, shrubs, flowering plants, and turf grass that are removed during the initial phase of construction would be replaced with ornamental trees, shrubs, flowering plants, and turf grass of an equivalent type and number. Therefore, the proposed project would be consistent with the City of Laguna Hills Municipal Code and a less than significant impact would occur.					
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?**					✓
	(**Source**: Appendix B of the City of Laguna Hills General Plan and a site visit July 5, 2012)					
	The OC Parks Department manages the Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Sub-region of the County of Orange,					

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	including portions of Laguna Hills. The NCCP/HCP was prepared in cooperation with CDFG and USFWS. The intent of the NCCP/HCP program is to provide long-term, regional protection of natural vegetation and wildlife diversity, while allowing compatible land use and appropriate development and growth. The NCCP/HCP is accomplished with the institution of a sub-regional Habitat Reserve System and implemented through a coordinated program to manage biological resources within the habitat reserve. No part of the project study area is located within a designated NCCP/HCP area. Therefore, no impact would occur.					
V.	**CULTURAL RESOURCES** Would the project:					
a)	**Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?**					✓
	(**Source**: Cultural resource literature review and records search conducted on September 26, 2012 at the South Central Coastal Information Center (SCCIC), and a site visit July 5, 2012)					
	An intent of a records search is to identify all previously recorded cultural resources including historic buildings, structures, objects or districts within the area of potential effect (APE), as required by Section 106 of the National Historic Preservation Act (NHPA) of 1966 and its implementing regulations, 36 CFR Part 800. The records search included a review of all previously recorded historic resources within a ¼-mile radius of the APE. Results from the records search conducted at the SCCIC identified no previously recorded sites within the APE or the ¼-mile radius study area. The Historic Property Data File (HPDF) and Historic Resources Inventory (HRI) records search results identified no listings in the National Register of Historic Places (NRHP), California Historical Landmarks (CHL), California Points of Historical Interest (PHI), and California Register of Historical Resources (CRHR) within the ¼-mile radius study area. No historic resources were observed within the project study area during the site visit on July 5, 2012. Therefore, no impact would occur.					
b)	**Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?**			✓		
	(**Source**: Cultural resource literature review and records search conducted on September 26, 2012 at the SCCIC, Native American Heritage Commission Letter and Responses, City of Laguna Hills General Plan, Conservation and Open Space Element)					
	Chambers Group conducted a cultural resources literature review and records search on September 26, 2012 at the South Central Coastal Information Center (SCCIC) (Appendix E) to identify all previously recorded cultural prehistoric and historic archaeological resources sites. The cultural resources literature review and records search determined that two previous cultural resource studies were conducted within the proposed project's APE that had study areas that extended within and beyond the ¼-mile radius of the current project study area, which are described below.					

ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact

Report Number	Within APE or within Buffer	Findings
O-254	APE	Fourteen sites were identified in this study's record search and no new sites were observed by this study's author during the inspection of remaining undeveloped tracts. Two of the fourteen sites were previously tested, five remained intact, and seven have been destroyed and/or salvaged. None of these sites have bearing influence on the direct APE of the proposed project.
O-1344	APE	Records search identified nine sites within the boundary of this study area and three sites within the sphere of influence. Most of these sites have been destroyed prior to this initial study. None of these sites have bearing influence on the direct APE of the proposed project.

Federal and State agencies often recommend that 5-years is the maximum time that a cultural resource record search is useable for planning purposes before a new record search must be conducted again. Because report O-254 was completed in 1977 and report O-1344 was completed in 1993, Chambers Group conducted a new literature search to determine if additional cultural resources had been discovered in the Project Area between 1993 and 2012. Results of the records search conducted at the SCCIC did not identify any previously recorded archaeological resources within the project area or the ¼-mile radius study area.

Chambers Group contacted the Native American Heritage Commission (NAHC) by letter on September 27, 2012, and requested a search of their Sacred Lands Inventory to determine if any recorded Sacred Lands or other features of cultural importance were within or near the project area. The NAHC Sacred Lands File search did not identify any Native American cultural resources within the project area or ¼-mile buffer. The NAHC provided a list of tribal governments with knowledge of the proposed project area to determine if any cultural resources might be impacted by the proposed action. Chambers Group then sent an informational letter on October 5, 2012 to the fourteen tribes identified by the NAHC to seek additional information regarding cultural resources in proximity to the project area. No responses were received from the tribes. NAHC correspondence is provided in Appendix F.

The City of Laguna Hills General Plan, Conservation and Open Space Element state that "No isolates are located within the City boundaries." (Page COS-13). Isolates are three or fewer artifacts not associated with a defined, discrete archaeological site, and therefore not eligible for NRHP or CRHR inclusion. Furthermore, the project study area has undergone previous development activity likely covering or destroying any potential surface level cultural resources. While the potential of uncovering subsurface deposits of cultural resources is very low, the possibility does exist. Implementation of mitigation measure CR-1 would reduce this impact to a level less than significant.

CR-1 A cultural monitor should be present during ground disturbing activities in the event that native, undisturbed soils are encountered during project construction. If cultural resources are encountered during any ground disturbing activities, all work must halt at that specific location until the resources can be properly evaluated by an archaeologist that meets the Secretary of the Interior standards, the appropriate managing agencies, and possibly after contacting the appropriate affiliated Tribal Group, in the case of Native

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	American cultural resources.					
c)	**Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**			✓		
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element; Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012)					
	Paleontological resources are fossils of plant and animal life more than 10,000 years old. The General Plan Conservation and Open Space Element states on page COS-13 that, "Paleontological resources, like archaeological resources, represent a limited, nonrenewable, and sensitive scientific and educational resource." The boring records provided in the Geotechnical Investigation prepared for the project classified the soils immediately at the surface within the project study area as Capistrano Formation. Table COS-2 on page COS-14 identifies the Capistrano Formation as possessing a "high sensitivity for paleontological resources." It is also stated on page COS-2 ". . . the City assesses and mitigates the potential impacts of private development and public facilities and infrastructure to paleontological resources pursuant to the provisions of CEQA." As with archaeological resources, paleontological resources are generally considered to be historical resources, as defined in *State CEQA Guidelines* Section 15064.5(a)(3)(D). Consequently, damage or destruction to paleontological resources could cause a significant impact. Therefore, through implementation of appropriate mitigation measures (CR-2 and CR-3), potential impacts to paleontological resources as a result of the proposed project can be reduced to a less than significant level.					
	Mitigation Measures CR-2 Prior to issuance of grading permit(s) for the project, the City shall retain a paleontological monitor to monitor all ground-disturbing activities to identify any unknown paleontological resources. Any newly discovered paleontological resource deposits shall be subject to a paleontological resources evaluation. CR-3 Prior to issuance of any grading permit, the project paleontological monitor shall file a pre-grading report with the City Engineer to document the proposed methodology for grading activity observation. Said methodology shall include the requirement for a qualified paleontological monitor to be present and to have the authority to stop and redirect grading activities. The paleontological monitor's authority to stop and redirect grading will be exercised in consultation with the City Engineer in order to evaluate the significance of any paleontological resources discovered within the project APE.					
d)	**Disturb any human remains, including those interred outside of formal cemeteries?**			✓		
	(**Source**: State Health and Safety Code Section 7050.5; PRC 5097.98)					
	The proposed project grading activities would disturb the soil to a depth of three to four feet. While the potential of uncovering human remains is very low, the possibility does exist. Implementation of mitigation measure CR-4 would reduce impacts to a level less than significant. CR-4 If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner					

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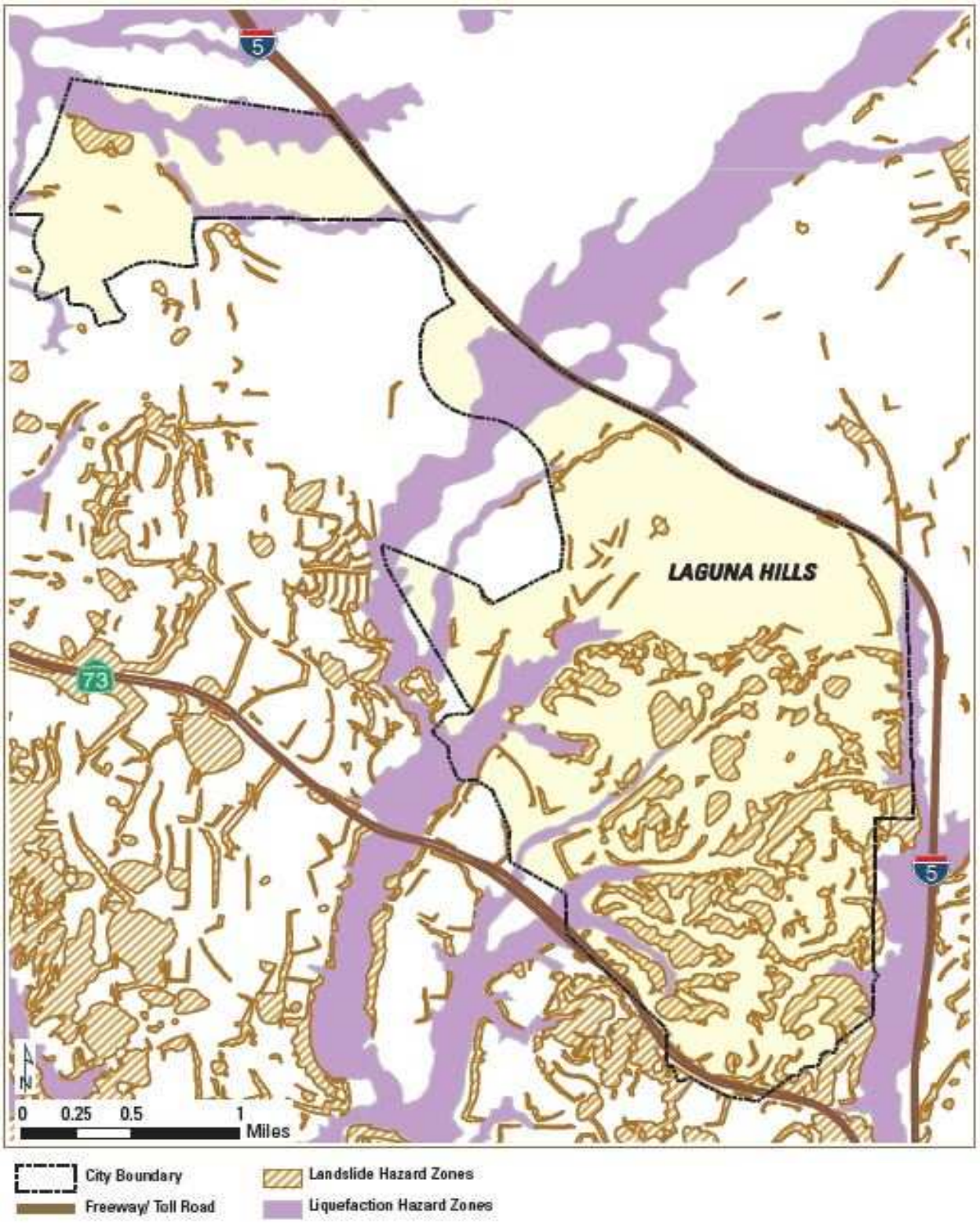
	would identify and notify the NAHC who would then notify the Most Likely Descendent (MLD). Further provisions of PRC 5097.98, which further clarifies how Native American remains are to be treated, are to be followed as applicable..				
VI.	**GEOLOGY AND SOILS** Would the project:					
a)	**Expose people 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?**					✓
	(**Source:** City of Laguna Hills General Plan, Safety Element; Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012 (Appendix G); Division of Mines and Geology Special Publication 42**)**					
	The project study area is not located in an Alquist-Priolo Special Studies Zone, and no known active faults are mapped as crossing or projecting toward the project study area. Caltrans ARS Online Regional Fault Map is shown below. The closest known active faults in the Caltrans database are the San Joaquin Hills Blind Thrust and the Newport-Inglewood Rose Canyon Fault Zone (Los Angeles Basin – Northern Section) which is located about 11.6 km (7.2 mi) southwest of the site. Though the site is above the San Joaquin Hills Blind Thrust, this fault is a blind thrust fault which dips to the southwest direction. The nearest surface projection is located 1.4 km (0.9 mi) from the site and the top of the rupture plane is located more than 2 km (1.2 mi) below the earth's surface. Therefore, the potential for fault rupture is considered remote. Due to the absence of active faults in the City, the risk of damage due to fault rupture during an earthquake is limited. In addition, no faults within or near the City have been placed within State of California established Alquist-Priolo Earthquake Fault Zones, which are subject to special land use controls and building standards. Therefore, no impact would occur.					

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	 Caltrans ARS Online Regional Fault Map					
	ii)	**Strong seismic ground shaking?**				✓	
	(**Source**: City of Laguna Hills General Plan, Safety Element; Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012(Appendix G))						
	Laguna Hills is located in a seismically active region, and residents could potentially be exposed to dangers caused by earthquakes and ground shaking. The Newport-Inglewood Fault Zone is the nearest major active fault and lies approximately 3 miles to the southwest of Laguna Hills. Refer to the Caltrans ARS Online Regional Fault Map shown above. Because the proposed project is a roadway widening and rehabilitation project and would not construct super structures (e.g. buildings or bridges), impacts would be less than significant.						
	iii)	**Seismic-related ground failure, including liquefaction?**				✓	
	(**Source**: City of Laguna Hills General Plan, Safety Element; Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012 (Appendix G))						
	The project study area is located in an area with a potential for liquefaction. However, because the proposed project is a roadway widening and rehabilitation project and would not construct super structures (e.g. buildings or bridges), impacts related to seismic-related ground failure, including liquefaction, would be less than significant.						
	iv)	**Landslides?**					✓
	(**Source**: City of Laguna Hills General Plan, Safety Element (Figure S-1); Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012 (Appendix G))						

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	The Aliso Creek Riding and Hiking Trail is located just east of the Paseo de Valencia northbound sidewalk. Residential properties are located atop the eastern slope of the Aliso Creek Riding and Hiking Trail, south of Beckenham Street. The slope is approximately 15 to 20 feet high with 1.5H: 1V inclination. The slope between the houses and Aliso Creek Riding and Hiking Trail is heavily vegetated with tall trees, shrubs, and grass. Currently, the toe of the slope is about 72 to 77 feet away from the northbound sidewalk on Paseo de Valencia. The distance from the toe of the slope to the sidewalk after the improvement would range from 61 to 66 feet away from the sidewalk. Exhibit 6 identifies the eastern slope along the east side of the Aliso Creek Riding and Hiking Trail as a potential landslide area. However, the slope of the east side of the Aliso Creek Riding and Hiking Trail is located outside of the project study area and would not be affected by project construction. Exhibit 6 identifies the project study area as being generally flat and not being located within a landslide area. Implementation of the proposed project is limited to widening of an existing roadway and would not introduce new structures that could be affected by a landslide. Therefore, there would be no impact related to landslides.					
b)	**Result in substantial soil erosion or the loss of topsoil?**				✓	
	(**Source**: City of Laguna Hills General Plan, Safety Element)					
	Erosion could occur during construction of the proposed project. State and federal requirements call for the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) establishing erosion and sediment controls for construction activities. Compliance with State and federal requirements would ensure less than significant impacts.					
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?**			✓		
	(**Source**: City of Laguna Hills General Plan, Safety Element (Figure S-1); Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012 (Appendix G); Supplemental Geotechnical Investigation – Paseo de Valencia Widening Prepared by Group Delta Consultants, Inc., December 20, 2012 (Appendix H))					
	As described in Section VI.a.iv) above, the slope area along the east side of the Aliso Creek Riding and Hiking Trail is located outside of the project study area and would not be affected by project construction. Furthermore, the project study area is generally flat and is not located within a landslide or liquefaction area. Consequently, the potential for on- or off-site landslide, liquefaction, or lateral spreading are considered unlikely. The project study area is underlain at the surface by Tertiary age formational soils of the Capistrano and Monterey Formations. These units are generally considered “soft rock” bedrock units. Since the construction zone within the project study area is relatively level and underlain by bedrock, slope instability from construction operations is not considered an issue, and subsidence and settlement of the underlying bedrock soils from construction operations is considered very unlikely. Therefore, no impact would occur.					

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	Residential Property Along Sunset Place West An additional analysis of geologic stability was conducted for the residential properties located along Sunset Place West. The City held a Public Information Meeting on April 16, 2012 to discuss the proposed project. During and subsequent to the meeting numerous local homeowners and their homeowners associations (particularly those that reside along Sunset Place West), submitted emails and comment cards voicing concerns about existing problems with their homes and the concern that construction of the proposed project may exacerbate these problems. The residents reported geological problems that generally included un-level house foundations, distress/cracks on ceilings, walls, hardscape and foundations, and building/slope movement indicated by tilted fence pilasters. A supplemental geotechnical investigation was conducted to evaluate the potential effect of the proposed project on the adjacent private properties and the potential causes of existing reported distress on the residential property along Sunset Place West. The supplemental geotechnical investigation included the following tasks: • Performing a visual and photographic site reconnaissance and visibly observing conditions along the front and rear property lines of residences on Sunset Place West; • Reviewing published historical topographic maps, aerial photographs, residential tract grading plans, and residential development geotechnical reports to estimate the location and depth of fill soils placed within the study area; • Obtaining an encroachment permit from the City of Laguna Hills; • Marking and clearing utilities through DigAlert; • Performing four (4) hollow stem auger borings along the property line between greenbelt and residences to investigate local subsurface conditions; • Performing laboratory testing on samples recovered from the borings; • Estimating the extent, depth, and engineering properties of fill materials underlying the Sunset Place West residences; • Evaluating the likely causes of existing distress manifested at the residences; • Evaluating the potential for settlement and vibrations at the residential properties caused by construction operations.				



Source: City of Laguna Hills General Plan. California Geologic Survey, Seismic Hazard Mapping Program, 2001.

Exhibit 6: Landslide and Liquefaction Hazard Zones Plan

Project Study Area Conditions

As described above, the Aliso Creek Riding and Hiking Trail is located just east of the Paseo de Valencia northbound sidewalk. Residential properties along Sunset Place West are located atop a slope at the east end of the Aliso Creek Riding and Hiking Trail, south of Beckenham Street. The slope is approximately 15 to 20 feet high with 1.5H: 1V inclination. The slope between the houses and Aliso Creek Riding and Hiking Trail is heavily vegetated with tall trees, shrubs, and grass. Currently, the toe of the slope is about 72 to 77 feet away from the northbound sidewalk on Paseo de Valencia. The distance from the toe of the slope to the sidewalk after the improvement would range from 61 to 66 feet away from the sidewalk. The homes along Sunset Place West are supported entirely on a variable depth of fill material ranging from a few feet near Sunset Place to about 15 to 20 feet near the top of slope.

Current Field Investigation

The subsurface conditions along the boundary between the Aliso Creek Riding and Hiking Trail and the Sunset Place West properties were further investigated by advancing four (4) hollow-stem auger borings at the locations shown in Exhibits 7 and 8. All four borings were performed adjacent to the toe of the Sunset Place West slope, at the eastern edge of the greenbelt, south of Beckenham Street. The borings were each advanced to a depth of 11.5 feet below the existing grade. Laboratory testing was performed on selected samples of the subsurface materials recovered from the borings. Tests were conducted to develop index, classification, strength, and expansive properties of the subsurface materials.

Topography

The USGS map contours are shown superimposed upon the site grading plan in Exhibit 9, along with the approximate cut-fill line and extent of existing fill. Native bedrock is exposed at the toe of slope along the greenbelt and under Paseo de Valencia, and is present under the residential fill (Exhibits 9 and 10). It can be seen that the homes along Sunset Place West are supported entirely on a variable depth of fill material ranging from a few feet near Sunset Place to about 15 to 20 feet near the top of slope, as shown in Cross-Section A-A' in Exhibit 10. Existing site elevations range from about El. 375 to 388 feet along the top of slope, to El. 360 to 375 feet in the greenbelt (see Exhibits 8 and 9).

Existing Distress

The front yard and rear slope areas of the residential properties were visually observed for signs of movement or distress. The following features were noted:

- Surface runoff and algae growth on sidewalks and other hardscape from landscape irrigation;
- Numerous instances of transverse, longitudinal and alligator cracks in asphalt pavement, and cracking in concrete pavement, sidewalks, and curb and gutter;
- Numerous vertical and horizontal cracks on concrete hardscape including planter walls, front gate walls, and property separation walls;
- Numerous cases of separation and uplift at joints between sidewalk or hardscape concrete slabs with vertical offsets of ½ to 1 inch;
- Several cases of tilted front gate pilasters and distortion of the garage door frames were observed in front the properties;
- Several cases of leaning fence pilasters and separations of up to about 1 inch between fence pilasters and property side walls near top of slope;
- An electrical box on Beckenham Street tilted due to apparent uplift in the foundation; and
- Circular cracks surrounding manholes.

Exhibit 7: Exploration Location Plan

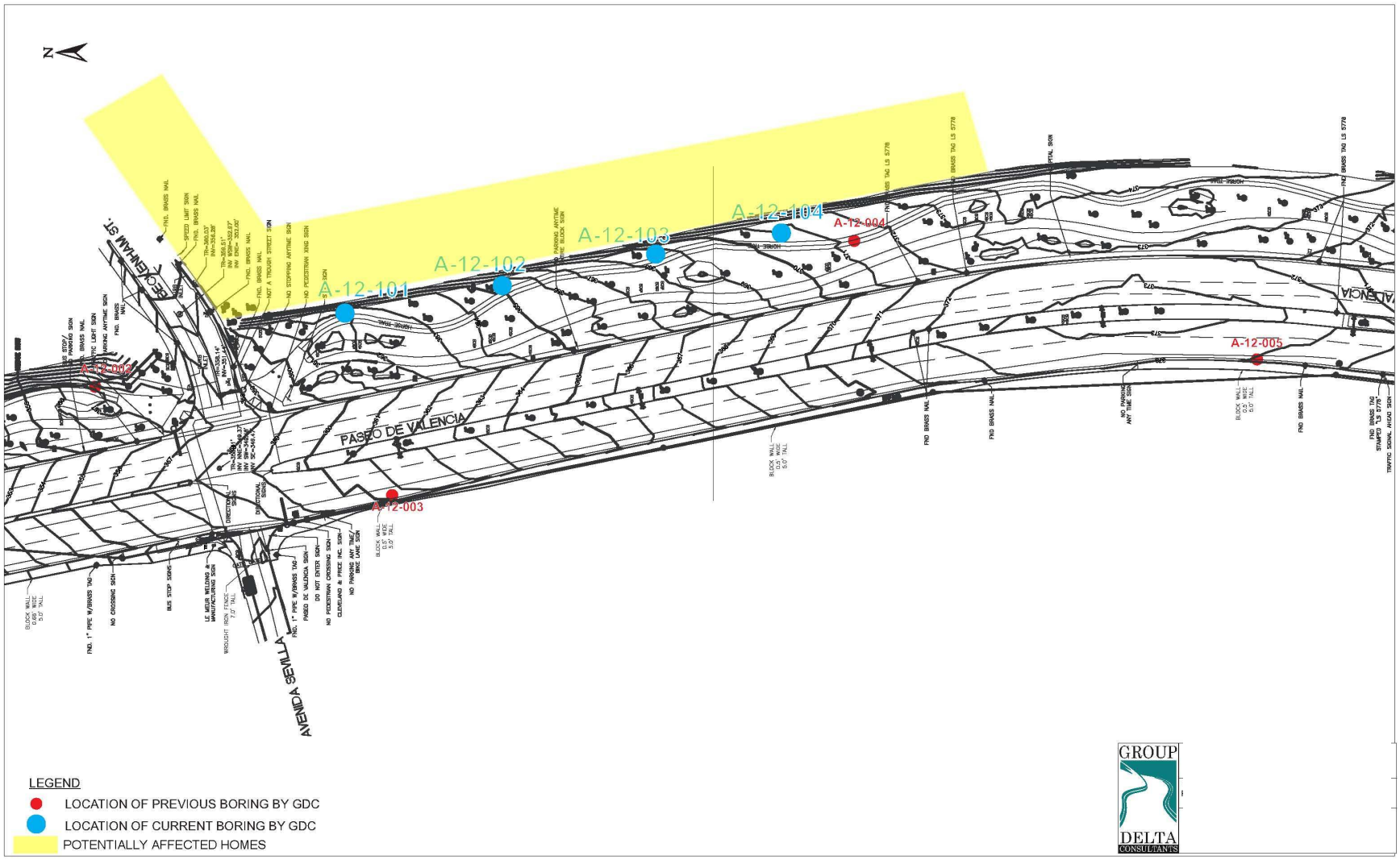


Exhibit 8: Site Topographic Map

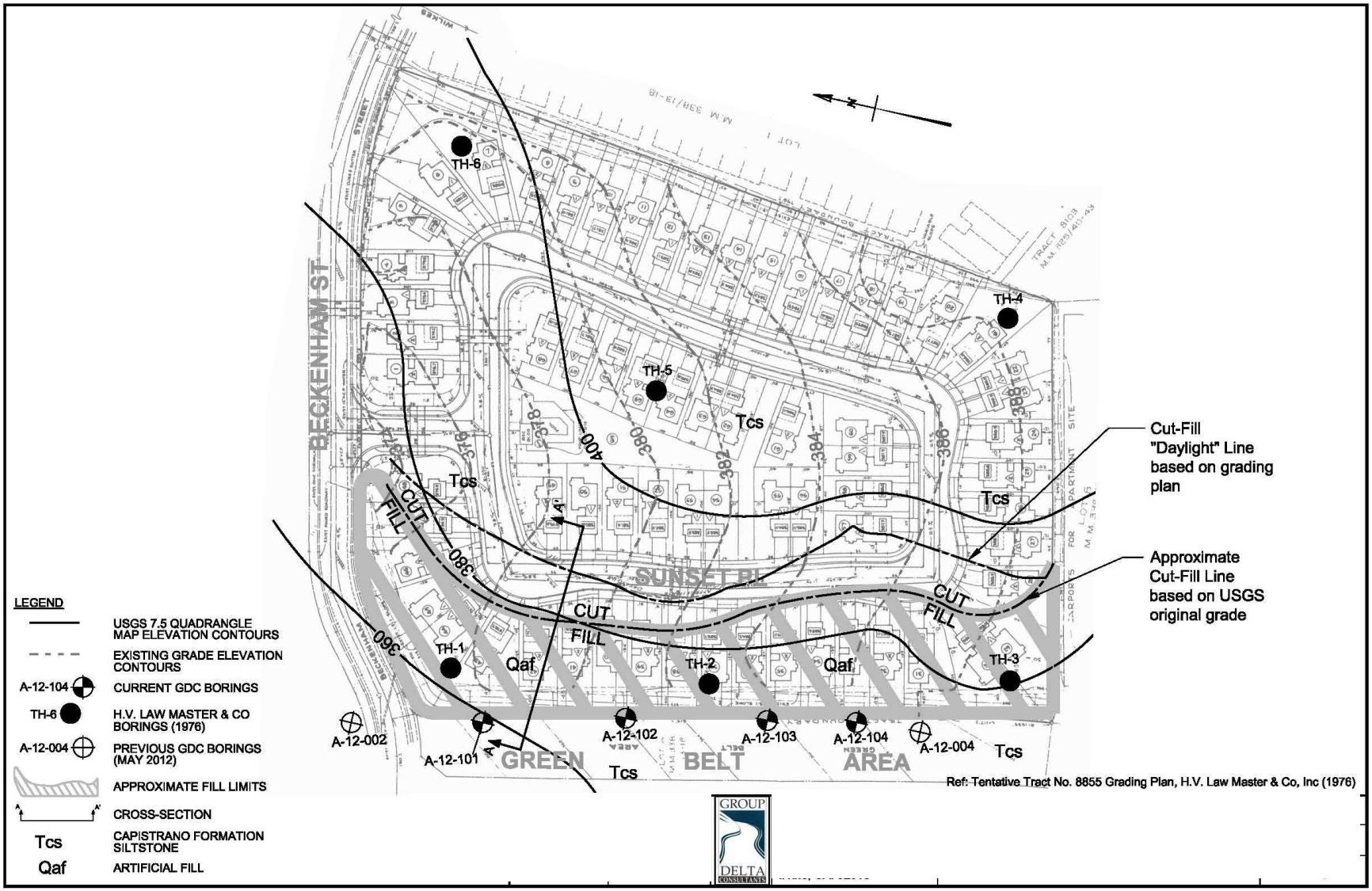


Exhibit 9: Cut-Fill Contour Map

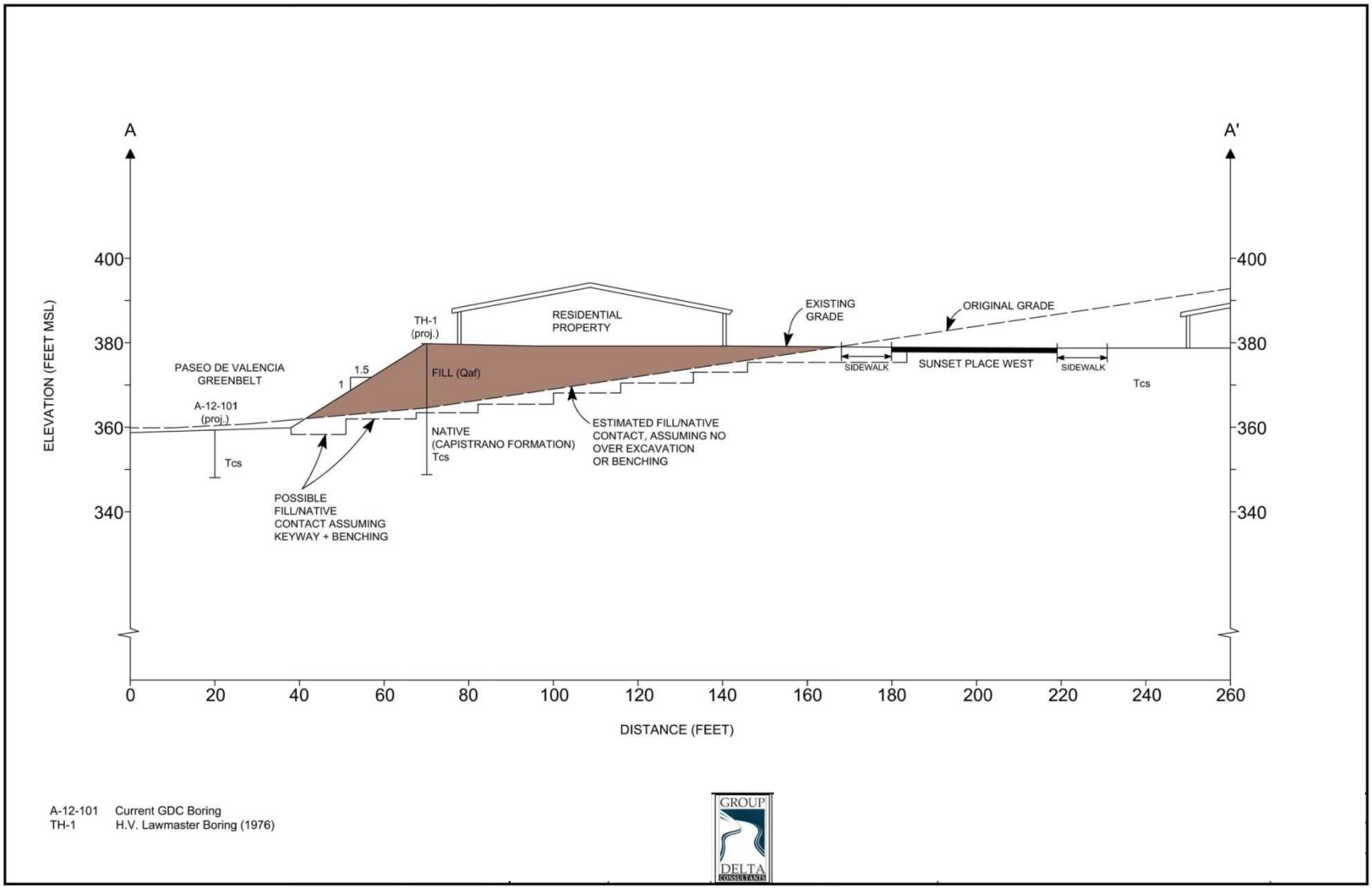


Exhibit 10: Cross Section A-A’

Geology

A regional geologic map of the site from the USGS Santa Ana 30' x 60' Quadrangle is presented in Exhibit 11 (USGS, 2008). The map shows that the project study area is underlain by Tertiary aged Capistrano Formation Siltstone Facies (Tcs). This formation is regionally described as white to pale gray, massive to crudely bedded, friable, siltstone and mudstone, which contains sandstone and calcareous mudstone beds, and sparse diatomaceous and tuffaceous beds. Technically, the unit is claystone and known to be moderately to highly expansive. Man-made fills have been placed over the Capistrano Formation under the residences along Sunset Place West. The fill materials were derived from cuts in Tcs, and are generally comprised of expansive clays. Numerous residential fills constructed out of Tcs materials in Orange County have experienced movements due to the expansive nature of the soils. A typical cross section illustrating the geologic profile is presented in Exhibit 10.

Subsurface Conditions

The current boring locations were done within the public right of way that is underlain by native Tcs; therefore, the borings did not obtain any samples of fill soils for testing. However, H.V. Lawmaster (H.V Lawmaster, 07-08-76) drilled borings within the existing fill and performed laboratory testing on samples of fill. These borings indicate presence of 11 to 20 feet of fill under the residences along Sunset Place West. The fill is described as Lean Clay, Silty Clay, Clayey Silt, Sandy Lean Clay, and Clayey Sand. Test results indicate the soil is moderately to highly expansive.

Tcs was encountered in the borings underlying approximately 6 inches of vegetated top soils. This formation is considered poorly-indurated sedimentary rock, and may be considered a "soft rock". When classified as a soil, the Tcs is very stiff to hard clays of medium to high plasticity (CL and CH).

Based on Group Delta's laboratory testing for the current and previous phase, Expansion Index (EI) of the Tcs tested ranges from 68 to 99 (average 89), which falls into the category of "medium" to "high" expansion potential in accordance with ASTM D 4829. H.V. Lawmaster (1976) indicated that the expansion index of the compacted fill ranged from 69 to 99, with an average of 86, which is consistent with data from the bedrock materials.

Groundwater

Upon auger withdrawal, boreholes remained open to the maximum depth with no caving. Groundwater was not encountered during either investigation conducted by Group Delta to the maximum depth explored of 21.5 ft below existing grade. Evidence of localized perched water or seepage was not observed.

Estimation of Fill/Formation Contact

The areal extent and depth of fill underlying the residences along Sunset Place West was evaluated by Group Delta. The cut fill "daylight line" was estimated from original and as-graded site topography, as shown in Exhibit 9. The daylight line shown on the grading plan is slightly further east, indicating benching into the natural slope and/or over excavation was likely done during grading (see Exhibits 9 and 10). The evaluation concluded that the homes on the west side of Sunset Place West are supported entirely on compacted fill ranging from about 5 to 16 feet in thickness. The fill is at its thickest at the slope crest, with the west and east limit of the fill estimated to be near the toe of the slope and somewhere along the width of Sunset Place West, respectively. The fill is underlain by Capistrano Formation Siltstone. The greenbelt and the homes located on the east side of Sunset Place West are underlain directly by Capistrano Formation Siltstone.

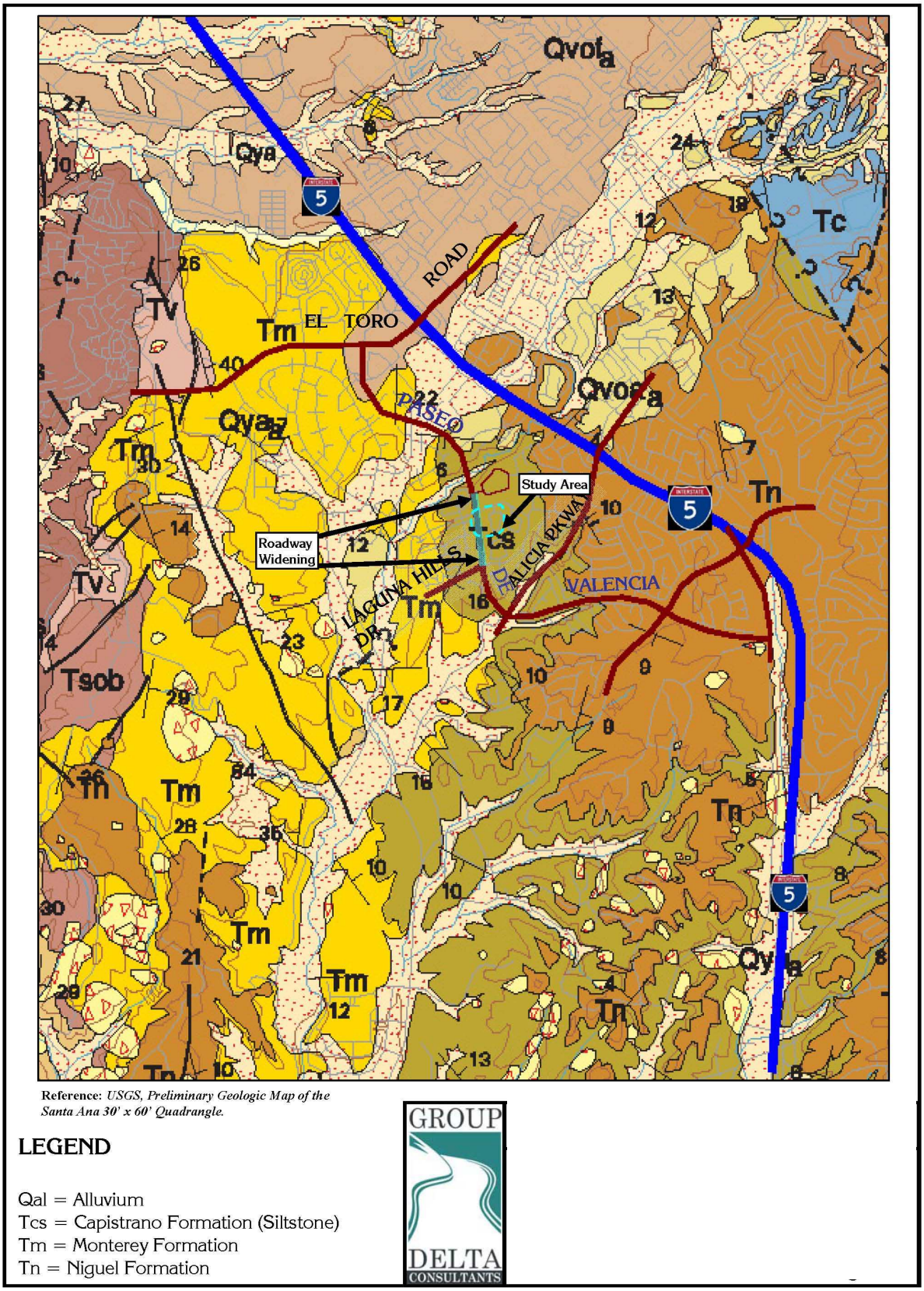


Exhibit 11: Regional Geologic Map

Potential Cause of Reported Distress

Based on the laboratory results from Group Delta and H.V. Lawmaster, both the fill soils and the Capistrano Formation Siltstone have medium to high expansion potential. Clayey soils are in general susceptible to volume change (shrinkage and swelling) due to changes in moisture contents of the soil. Expansive soils generally shrink when dried, swell when wetted under low pressure (near the ground surface), and compress when wetted under high pressures (deep in a fill). The shrinkage, swelling, and settlement can occur in cycles when subjected to repeated wetting and drying. When expansive soils form a slope, these volume changes can cause the slope to move outward and settle near the top. This process of slope deformation is known as "Lateral Fill Extension." When a fill slope has thicker fill on the downslope side and thinner fill on the upslope side (as is the case here), this tendency is increased, and the shallow fill areas may heave while the deeper fill settles and/or moves toward the slope. Group Delta has experience on numerous cases where fills constructed out of Capistrano Formation Siltstone have experienced swelling, settlement, and lateral fill extension resulting in damage to structures and hardscape.

During Group Delta's site observation, clayey soils near the top of the slope exhibited desiccation/ shrinkage cracks which typically occur when the clay soils dry out. In other areas Group Delta observed irrigation water flowing over sidewalks, algae growth, and wet soils indicating excessive irrigation. Based on these observations, the soils at the Sunset Place West site are subjected to repeated cycles of drying and wetting.

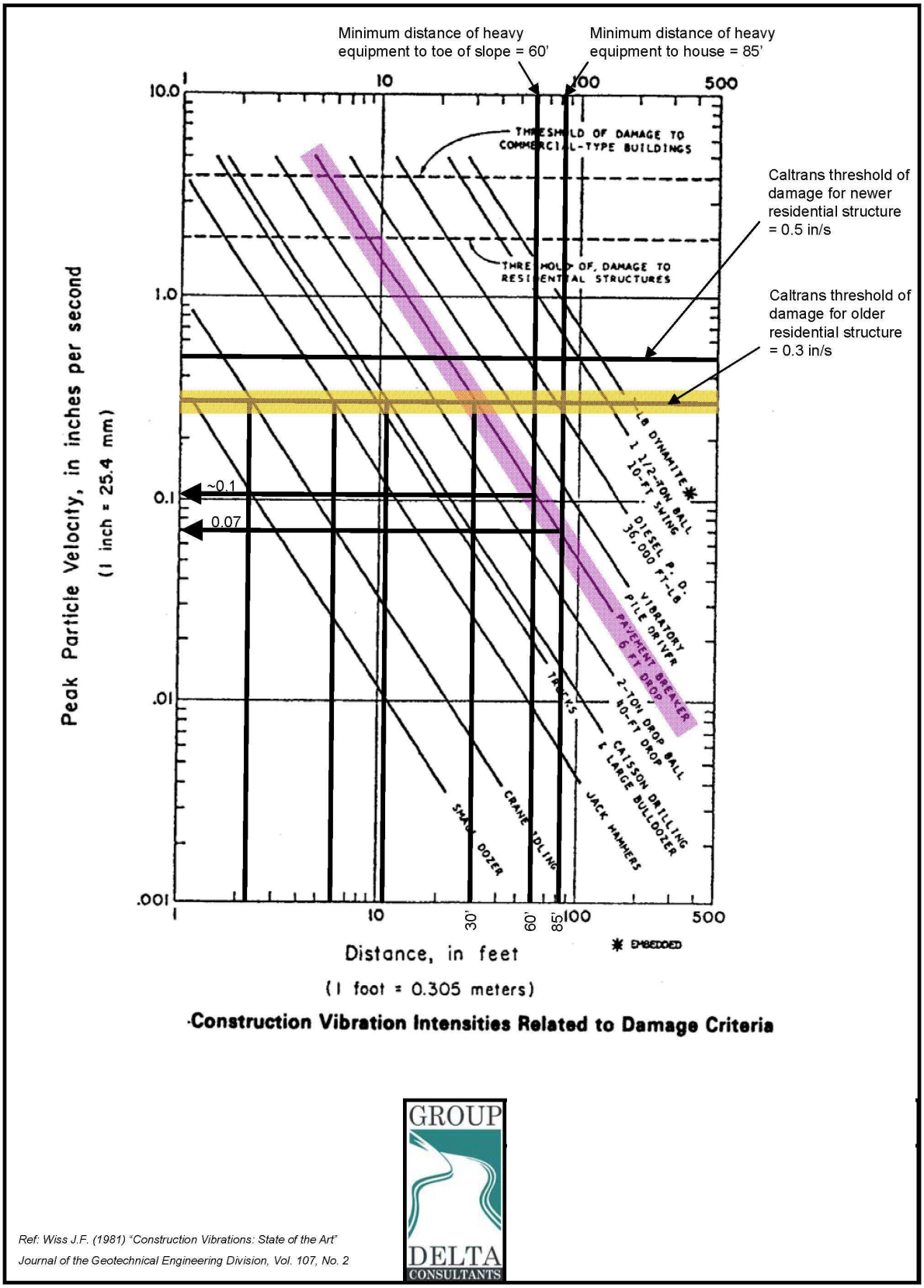
It is Group Delta's opinion that at the Sunset Place West site changes in soil moisture content combined with highly expansive soils have resulted in volume changes, and these volume changes have resulted in heaving, settlement, and lateral fill extension which explain the frequent cracks in pavement and hardscape, uneven floors, distorted door frames, tilted pilasters, and other structural distress.

Potential Construction Impacts to Sunset Place West Residential Properties

Potential Settlement. Construction vibrations can cause settlement of loose granular (cohesionless) fills or dumped clayey fills. Dense cohesionless soils, stiff clays, and bedrock materials are generally not subject to significant settlements due to vibration. During grading, construction equipment operating within the Paseo de Valencia right of way would be supported on the surface of Capistrano Formation, which is considered not to be subject to settlement from vibrations. The fill material forming the slope and the foundation soils for the residences is comprised of compacted unsaturated cohesive fill material that would classify as stiff to very stiff in consistency. The potential for settlement of very stiff unsaturated clay soils due to construction vibrations is considered negligible.

Vibration Impacts on Residents and Properties. Construction operations would occur in the Paseo de Valencia roadway and greenbelt areas. The distance between operation of the heavy construction equipment and the toe of the residential fill slope is estimated to be a minimum of 60 feet. The homes themselves are an additional 25 to 35 feet from the equipment.

Wiss (1981) provides a chart to estimate peak particle velocity from various types of construction equipment, and threshold peak particle velocity for damage to residential and commercial structures (see Exhibit 12). Wiss's chart indicates threshold velocities of 1.5 inch/second for damage to residential structures, and 3 inches per second for commercial buildings. Caltrans (Jones and Stokes, 2004) uses more conservative threshold damage criteria of 0.5 inch/second for newer residential and 0.3 inch/second for older residential structures subjected to continuous vibration sources. The Caltrans criteria are shown in Exhibit 13.



Construction Vibration Intensities Related to Damage Criteria

Ref: Wiss J.F. (1981) "Construction Vibrations: State of the Art" Journal of the Geotechnical Engineering Division, Vol. 107, No. 2

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Exhibit 12: Evaluation of Vibration Effects

Guideline Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Ref: Caltrans Transportation- and Construction-Induced Vibration Manual. Prepared by: Jones & Stokes (June 2004)

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Exhibit 13: Caltrans Guideline Vibration Damage and Annoyance Potential Criteria

ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact

Blasting with dynamite, wrecking balls, and diesel or vibratory pile drivers are not anticipated for this proposed project. Referring to Exhibit 12 the pavement breaker with 6-foot drop would produce the highest vibrations during the construction of the roadway. Based on Exhibit 12, Evaluation of Vibration Effects, the predicted Peak Particle Velocity (PPV) at 60 to 85 feet away from the pavement breaker is approximately 0.07 to 0.1 inches per second. For automobiles, trucks, small dozer and large bulldozer, the level of resulting vibration (PPV) would be lower. Vehicles traveling on a smooth roadway are rarely the source of perceptible ground vibration. Even when pavement discontinuities are present, it is generally heavy trucks, not automobiles, that are the source of the perceptible vibration.

The *Transportation- and Construction-Induced Vibration Guidance Manual, Prepared for Caltrans* (Caltrans Manual) provides guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects (Jones and Stokes, 2004). According to the chart and various vibration criteria described in the Caltrans Manual, the vibration level resulting from the pavement breaker consistently stays below the threshold of vibration considered to cause damage to residential structures. The chart shown in Exhibit 12 suggests that for various types of equipment that may be used on the proposed project, the minimum distance away from structures required to maintain peak particle velocity below 0.3 inches per second (Caltrans threshold for older residential structures) is as follows:

- Pavement breaker: 30 feet
- Caisson drilling: 11 feet
- Trucks: 10 feet
- Jack Hammers: 6 feet
- Crane Idling: <3 feet
- Small Dozer: <2 feet

If this or similar equipment maintains setbacks of this distance from residential properties, it is expected that construction operations would not result in structural damage. It is anticipated that heavy equipment would not operate in closer proximity than these thresholds.

Therefore, it is Group Delta's opinion that the vibration from construction machinery would not have an adverse impact on Sunset Place West homes, and impacts related to soil settlement, slope movements, or vibration induced damage would be less than significant. Furthermore, implementation of mitigation measures GEO-1 through GEO-5 would ensure that vibration from construction machinery would remain below the threshold of potential damage for older residential structures and reduce impacts to a level less than significant.

Mitigation Measures

GEO-1 The City shall retain a qualified consultant to perform a pre-construction inspection to identify existing damage or distress. The inspection could include photographic documentation, crack measurements, and floor level manometer survey.

GEO-2 The City shall retain a qualified consultant to prepare and submit a work plan for approval by the City prior to commencement of construction. The work plan would classify heavy construction equipment based on the various equipment types presented in Exhibit 12. The work plan must also include appropriate setbacks for construction equipment based on the construction equipment classifications and peak particle velocity thresholds presented in Exhibit 12.

GEO-3 The City would keep nearby residence and property owners informed about the work schedule and activities. The work plan to be submitted by the qualified consultant would

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	include restrictions limiting construction days and hours consistent with the City of Laguna Hills Noise Ordinance, which prohibits noise generated by construction activities between the hours of 8:00 PM and 7:00 AM weekdays and 8:00 PM and 8:00 AM on Saturday, or at any time on Sundays or a federal holiday. GEO-4 The City shall retain a qualified consultant to install and monitor survey points along the property line and/or within adjacent properties prior to the commencement of construction to document any vertical or horizontal movements of the ground. Detection of vertical or horizontal ground movements would trigger shutdown of construction operations until construction equipment was moved further back to prevent further ground movements. GEO-5 The City shall retain a qualified consultant to to prepare and submit a vibration monitoring plan for approval by the City prior to commencement of construction. The work plan would include installation of vibration monitoring instruments along the property line and/or within the residential properties to monitor peak particle velocities resulting from construction activities. Exceedance of threshold values presented in Exhibit 12 would trigger shutdown of construction operations. Instruments required for monitoring activities would include particle velocity sensors and a digital recorder/data logger.					
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?**				✓	
	(**Source**: California Building Code Section 1802.3.2 (2007); Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012 (Appendix G))					
	In the California Building Code expansive soil is defined under Section 1802.3.2 (2007). The project study area is underlain by Tertiary aged Capistrano Formation siltstone facies (Tcs) and at depth by Monterey Formation (Tm). These soils generally consist of early Pliocene and Miocene siliceous and diatomaceous marine sandstone, siltstone, and mudstone. The near surface materials encountered at the project study area generally consist of weathered Tertiary formation which is generally a clayey soil with medium plasticity. Based on laboratory testing, these materials have a medium expansion potential (Expansion Index EI=68). Expansive soils tend to swell when wetted which can result in heave and cracking of surface hardscape and other improvements. A medium expansion potential corresponds to an Expansion Index (EI) of 51 to 90. The structural design requirements described in the Geotechnical Investigation may require greater thickness and/or more reinforcing than indicated. However, given that the proposed project would not construct super structures (e.g. buildings or bridges), it is not anticipated that structural slabs would be required, and impacts would be less than significant.					
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?**					✓
	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element)					

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	The proposed project is a roadway widening and rehabilitation project, so waste systems are not necessary. Further, this area is already served by sewer infrastructure. Therefore, the proposed project would have no impact.				
VII.	**GREENHOUSE GAS EMISSIONS** Would the project:				
a)	**Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**				✓
	(**Source**: City of Laguna Hills General Plan, 2009; CalEEMod)				

SCAQMD has not yet adopted CEQA significance thresholds for greenhouse gas emissions for development projects. In the absence of a climate action plan for Laguna Hills, SCAQMD thresholds, when adopted, would apply to future development in Laguna Hills. SCAQMD is proposing a screening-level threshold of 3,000 metric tons annually for all land use types. A conservative estimate of the proposed project's construction-related GHG emissions is presented in Table VII-1. Upon completion of construction, the GHG emissions presented in Table VII-1 cease. The project was set up in CalEEMod using default worse case set up conditions for this type of project. Default settings are designed to produce a level of confidence that the data output would represent a normal to worst case scenario for this project size and type.

Results from CalEEMod for the proposed project estimate direct GHG emissions from construction-related activities to be significantly less than the SCAQMD threshold. The proposed project would not increase number of trips as it is a roadway widening and street improvement project, so indirect GHG emissions would not increase. Additionally, the City's landscape initiatives and annual tree planting and maintenance programs help to address climate change. Therefore, no impact would occur.

Table VII-1 – Construction-Related GHG Emissions

Construction Phase	GHG Emissions (MT/yr)
	CO2e
Site Preparation	37
Grading/Excavation	49
Paving	28
Total Construction GHG Emissions (MT/yr)	114
SCAQMD Screening Threshold (MT/yr)	3,000
Exceed Threshold?	NO

Source: CalEEMod Version 2011.1.1.

Notes:

1 Where specific construction information was not available, construction assumptions were based on CalEEMod defaults.

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
b)	**Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**					✓
	(**Source**: City of Laguna Hills General Plan, 2009; CalEEMod)					
	Laguna Hills is committed to improving air quality and addressing climate change to the degree feasible at the local level by creating policies and supporting programs that reduce air quality emissions and enable residents, business owners, and visitors to employ sustainable and energy efficient practices. The CARB Scoping Plan is California's strategy to achieve the GHG emissions reduction target (1990 levels by year 2020) established by Assembly Bill (AB) 32. The proposed project's GHG emissions would be further reduced by complying with statewide measures that have been adopted since AB32. Based on estimations from CalEEMod, the proposed construction project would not significantly add to the cumulative GHG totals for the State of California. Therefore, the proposed project would not have the potential to interfere with the State of California's ability to achieve GHG reduction goals and strategies. Therefore, no impact would occur.					
VIII.	**HAZARDS AND HAZARDOUS MATERIALS** Would the project:					
a)	**Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**				✓	
	(**Source**: City of Laguna Hills General Plan, Safety Element; Code of Federal Regulations, Title 49; Emergency Planning and Right-to-Know Act (SARA Title III); California Health and Safety Code, Chapter 6.95)					
	The proposed project involves roadway improvements. Operation of the roadway in and of itself would not pose a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials. However, the construction of the roadway improvements have the potential to create a hazard to the public or environment through the routine transportation, use, and disposal of construction related hazardous materials as the proposed project would include the delivery and disposal of hazardous materials such as fuels, oils, solvents, and other materials. These materials are typical of materials delivered to construction sites. Existing federal and state laws adequately address risks associated with the transport of hazardous materials. The California Department of Transportation is mandated to implement the regulations published as the Code of Federal Regulations, Title 49, commonly referred to as 49 CFR. With regard to the transportation of hazardous materials and wastes, these regulations govern the manufacture of packaging and transport containers; packing and repacking; labeling; and the marking of hazardous material transport. Any transport of hazardous materials to the project site would be subject to the federal and State regulations described above. Fire protection services for Laguna Hills are provided under contract with the Orange County Fire Authority, which has the authority to inspect on-site uses and to enforce State and federal laws governing the storage, use, transport, and disposal of hazardous materials and wastes. An annual inventory of hazardous materials used on site, as well as, the submission of a business					

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	emergency plan for annual review, as required by Emergency Planning and Right-to-Know Act (SARA Title III) and Chapter 6.95 of the California Health and Safety Code. These requirements would be mandated according to State and federal law and City ordinances. Oversight by the appropriate federal, State, and local agencies, and compliance with applicable regulations related to the handling, storage and disposal of hazardous materials would cause the proposed project to have a less than significant impact directly, indirectly and cumulatively through the implementation of standard State and federal requirements and City ordinances protecting the public or the environment from 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?**			✓	
	(**Source**: City of Laguna Hills General Plan, Safety Element; Code of Federal Regulations, Title 49; Emergency Planning and Right-to-Know Act (SARA Title III);California Health and Safety Code, Chapter 6.95)				
	See response VIII.a above. In summary, compliance with existing regulations would ensure that the public would not be exposed to any unusual or excessive risks related to hazardous materials as a result of this proposed project. As such, impacts associated with the upset and accident conditions involving the release of hazardous materials into the environment would be a less than significant impact directly, indirectly, and cumulatively.				
c)	**Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**			✓	
	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element)				
	Hazardous emissions or the handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school may expose students and faculty to harmful pollutants that could adversely affect human health. Laguna Hills High School is located on the southeast corner of Laguna Hills Drive and Paseo de Valencia, and is within one-quarter mile of the project study area. Lomarena Elementary School is the next closest school to the project study area and it is located approximately 0.37 mile due east of the project study area. Valencia Elementary School is located approximately 1.1 miles east of the southeastern corner of the project study area. The proposed project is limited to widening Paseo de Valencia between Laguna Hills Drive and Kennington Drive and would not emit hazardous pollutants or require handling of hazardous materials during the operational phase of the project. Although hazardous materials and waste generated from the construction of roadway improvements and related infrastructure development may pose a health risk to nearby schools, all businesses that handle or have on-site transportation of hazardous materials are required to comply with the provisions of the City's Fire Code and any additional provision as required in the California Health and Safety Code Article 1				

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	Chapter 6.95 for the Business Emergency Plan. Both the federal and State governments require all businesses that handle more than a specified amount of hazardous materials to submit a business plan to a regulating agency. Laguna Hills High School is the only school located within one-quarter mile of the project study area. As described in response VIII.a above, compliance with existing federal and State regulations related to the handling, storage and disposal of hazardous materials would reduce impacts associated with the exposure of schools to hazardous materials to a level less than significant.				
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?**				✓
	(**Source**: Government Code Section 65962.5 (Cortese List); CERCLIS; DTSC EnviroStar Database Listed Sites)				
	A review of hazardous materials site lists compiled pursuant to Government Code Section 65962.5 found that the project study area is not included on any CERCLIS listed sites. The DTSC EnviroStar Database listed sites identified Laguna Hills High School on the southern edge of the project study area as being a *School Investigation* site. The proposed project is a roadway improvement project and would not be located on Laguna Hills High School property; thus, a significant hazard to the public would not result from the proximity of the roadway improvements to the Laguna Hills High School site. Therefore, the proposed project would have no impact related to creating any significant hazard to the public or environment**.**				
e)	**For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**				✓
	(**Source**: John Wayne Airport Rules and Regulations, July 1, 2012; Orange County Airport Environs Land Use Plan Airport Planning Areas Map; AELUP Height Restriction Zone for JWA Map)				
	All airports, public and private, with influence area over a City have a valid airport land use plan. John Wayne Airport is the only commercial service airport in Orange County. It is located approximately 8 miles northwest of the City of Laguna Hills, between the cities of Costa Mesa, Irvine, Newport Beach, and Santa Ana. A review of the safety and/or airport compatibility zones found that the project study area is not located within any airport land use plan area or compatibility zone. Therefore, the proposed project would have no impact resulting in a safety hazard for people residing or working in the project study area.				

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
f)	**For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**					✓
	(**Source**: Orange County Airport Environs Land Use Plan Airport Planning Areas Map)					
	There are no private airstrips within the City or in the vicinity of the project study area. Therefore, the proposed project would have no impact resulting in a safety hazard for people residing or working in the project study area.					
g)	**Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**				✓	
	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element)					
	A traffic control plan (TCP) would be implemented to maintain adequate circulation and allow for emergency response and evacuation during project construction. The TCP will be prepared consistent with California Manual of Uniform Traffic Control Devices (CA MUTCD) standards and will provide guidance for the appropriate use of traffic control devices such as temporary K-rail, channelizes, barricades, arrow boards, temporary signage and striping for each phase of construction. Implementation of the TCP will ensure that adequate circulation access and safety is maintained within the proposed project area for local motorists and residents during construction. With additional growth to the City's and general area population, traffic conditions could become more congested on local arterials. The proposed project would construct roadway improvements that would, in part, reduce roadway congestion thereby improving potential evacuation routes and emergency medical response times. Thus, operation of the proposed project would potentially provide a beneficial impact to emergency evacuation or response plans. The impacts of this proposed project would be less than significant.					
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?**					✓
	(**Source**: City of Laguna Hills General Plan, Safety Element)					
	The project study area is located in an urbanized area where no wildlands exist and there are no wildlands in close proximity. The closest wildlands are approximately 2.8 miles to the west of the project study area. Therefore, no impact would occur.					
IX.	**HYDROLOGY AND WATER QUALITY** Would the project:					
a)	**Violate any water quality standards or waste discharge**				✓	

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	requirements?					
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element; STV, Inc.)					
	The proposed project would construct roadway and landscaped median island improvements that would add impervious surfaces (e.g. pavement) and pervious surfaces (e.g. landscaping) within the construction area. Existing Total Area = 236,805 square feet (SF) Existing Pervious = 30,616 SF Existing Impervious = 236,805 – 30,616 = 206,189 SF Proposed Total Area = 253,492 SF Proposed Pervious = 32,496 SF Proposed Impervious = 253,492 – 32,496 = 220,996 SF *Net Added Impervious Area* = 220,996 – 206,189 = 14,807 SF (0.34 acres) *Net Added Pervious Area* = 32,496 – 30,616 = 1,880 SF (0.04 acres) *Net Added Within Construction Area* = 14,807 + 1,880 = 16,687 SF (0.38 acres) The proposed project would construct roadway and landscaped median island improvements that would add 14,807 square feet of impervious surfaces (e.g. pavement) and 1,880 square feet of pervious surfaces (e.g. landscaping), resulting in a net increase of 16,687 square feet (0.38 acres) of surface and a net increase in total surface runoff. The proposed project is required to comply with applicable federal, State, and local water quality regulations. Currently, the City follows State standards for water quality. During construction, the proposed project would be required to obtain coverage under the State's General Permit for Construction Activities that is administered by the Santa Ana RWQCB. The Water Quality Management Plan (WQMP) prepared for the proposed project has identified stormwater management measures to effectively control erosion and sedimentation and other construction-related pollutants during construction. These measures include, but are not limited to, treatment control BMPs such as vegetated (grass swales) to filter out pollutants and infiltration trenches to adequately convey storm water during rain events. Additionally, the proposed project would incorporate water quality features identified in the Los Angeles Green Streets Initiative into the street design. These include utilizing a landscaped buffer between the sidewalk and street and constructing water quality planter areas to maximize the possibility of infiltration. A description of all BMPs to be utilized by the proposed project is provided in the WQMP prepared for the proposed project. The Public Works Department, through detailed specifications, would require its contractors responsible for the construction of the proposed project to comply with the above-referenced requirements. Therefore, a less than significant impact would occur.					

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
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)?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element and Community Services and Facilities Element; STV, Inc.)					
	Laguna Hills obtains water services from the Moulton Niguel Water District (MNWD) and the El Toro Water District (ETWD). Water services are provided in the northern portion of the City by the ETWD and in the southern portion of the City by the MNWD. The division line runs through a neighborhood north of Alicia Parkway and south of Aliso Creek, and separates the project study area. Water from both Districts comes from the Colorado River and the State Water Project (which draws water from the San Francisco-San Joaquin Bay Delta) and travels hundreds of miles to the local water districts through an intricate aboveground and underground delivery system operated by the Metropolitan Water District of Southern California. The proposed project would not use substantial amounts of groundwater based where both Water Districts serving the City obtain their water supply. Although the proposed project would install new median landscaping, the irrigation system would be designed to reduce water usage. In addition, the proposed project would not substantially interfere with groundwater recharge. The proposed project would increase the impervious surface area within the project site by 0.38 acres (see Response in IX.a), thereby reducing groundwater infiltration within the project study area. However, relative to the size of the groundwater basin, this increase in impervious area would not be substantial. Thus, the proposed project would not significantly 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. Therefore, a less than significant impact would occur.					
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?**				✓	
	(**Source**: STV, Inc.)					

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	The proposed project would not alter the high point of the drainage pattern that covers the project site located 700-feet north of Laguna Hills Drive. Similarly, the proposed project would not alter storm water runoff or tributary areas within the project area. Storm water north of the high point would flow directly to Aliso Viejo Creek at the over crossing of the creek and Paseo de Valencia. Storm water south of the high point would flow towards Laguna Hills Drive, then further south to Alicia Parkway which eventually rejoins Aliso Viejo Creek. Existing catch basin on Paseo de Valencia would be readjusted to be located at-grade with the proposed pavement in order to adequately capture runoff . Therefore, a less than significant impact would occur.					
d)	**Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner in which would result in flooding on- or off-site?**				✓	
	(**Source**: STV, Inc.)					
	The proposed project would construct roadway improvements along an existing roadway and would not directly or indirectly alter the existing drainage pattern of the site or alter of the course of stream or river. The proposed project would increase the total amount of impervious surfaces by 0.38 acres, which would result in a minor increase in runoff. The proposed project would connect to the existing storm drain pipelines, catch basins, and connector pipes, which would capture this minor increase in runoff. The existing facilities have adequate capacities to intercept and convey the proposed project runoff. Therefore, a less than significant impact would occur.					
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?**				✓	
	(**Source**: STV, Inc.)					
	The proposed project would increase the total amount of impervious surfaces by 0.38 acres, which would result in a minor increase in runoff. The proposed project would connect to the existing storm drain pipelines, catch basins, and connector pipes, which would capture this minor increase in runoff. The existing facilities have adequate capacities to intercept and convey the proposed project runoff. The proposed project is expected to convey the following pollutants: sediment/turbidity, nutrients, trash and debris, oxygen demanding substances, oil and grease, and pesticides. These expected pollutants would be treated through the incorporation of the site design, source control and treatment control measures that would be specified in the proposed project specific WQMP. Consequently, as the expected pollutants would be mitigated through best management practices, the proposed project would not create or contribute runoff water exceeding capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, a less than significant impact would occur.					
f)	**Otherwise substantially degrade**					✓

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	water quality?					
	(**Source**: STV, Inc.)					
	The proposed project would not impact water quality beyond what is discussed in responses 8a through 8e, above. Therefore, no impact would occur.					
g)	**Place housing within a 100-year flood hazard area as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**					✓
	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element and Safety Element (Figure S-3))					
	The City requires adequate flood control facilities to protect all structures and major roadways from hazards associated with being near a 100-year floodplain and will require new development and redevelopment to be located to either avoid flood hazards or incorporate them into the overall design. As shown in Figure S-3 the project study area does not lie within a 100-year floodplain. Furthermore, the proposed project does not involve the construction of housing. Therefore, no impact would occur.					
h)	**Place within a 100-year flood hazard area structures which would impede or redirect flood flows?**					✓
	(**Source**: City of Laguna Hills General Plan, Safety Element (Figure S-3))					
	The project study area is not located within a 100-year flood hazard area, and it is located approximately 250 feet south of Aliso Creek which is a 100-year floodplain, as depicted on Figure S-3. Therefore, the proposed project would not place a structure within a 100-year flood hazard area that would impede or redirect flood flows. Therefore, no impact would occur.					
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?**				✓	
	(**Source**: City of Laguna Hills General Plan, Safety Element (Figure S-3))					
	The project study area is not located within a 500-year flood hazard area as depicted on Figure S-3. There are no dams or reservoirs within one-mile of the project study area. The proposed project is a roadway improvement project and would not involve the construction of super structures such as bridges or buildings. Furthermore, the proposed project would improve existing roadways that are already subject to the same level of risk from flooding. Therefore, relative to the existing setting, the proposed project would not increase risk from flooding, or dam inundation. Therefore, a less than significant impact would occur.					
j)	**Inundation by seiche, tsunami, or mudflow?**					✓

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	(**Source**: City of Laguna Hills General Plan, Safety Element (Figures S-1 and S-3))				
	Tsunamis are large waves that occur in coastal areas. Since the City is not located in a coastal area, no impacts due to tsunamis would occur. Additionally, the project study area has a generally flat topography and is within an urbanized area and not within close proximity to lakes or reservoirs; seiches and mudflows would not occur within this type of environment. As described in Section VI.a.iv) above, Exhibit 6 identifies the slope area along the east side of the Aliso Creek Riding and Hiking Trail as being a potential landslide area. However, the slopes east side of the Aliso Creek Riding and Hiking Trail is located outside of the project study area and would not be affected by project construction. The proposed project is limited to widening of an existing roadway and would not introduce any new structures that could be susceptible to mudflow from the slopes on the east side of the Aliso Creek Riding and Hiking Trail. Furthermore, there is no historical evidence that a mudflow could occur within that area. Therefore, no impact would occur.				
X.	**LAND USE AND PLANNING** Would the project:				
a)	**Physically divide an established community?**				✓
	(**Source**: City of Laguna Hills General Plan, Land Use Element; Project Site Plan)				
	The proposed project would improve the existing roadway and median islands. It would not construct new streets or otherwise alter the existing surrounding pattern of development and established communities. The proposed project would provide a beneficial impact to the community in that it would construct a sidewalk along the southbound lane of Paseo de Valencia with a landscaped strip adjacent to the travel way, and trees within tree-wells approximately every 50 feet. In addition, the proposed project would add a northbound Class II bike lane. Therefore, no impact would occur.				
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?**			✓	
	(**Source**: City of Laguna Hills General Plan, Mobility Element; Traffic Impact Analysis Report prepared by Lin Consulting, Inc., May 11, 2012)				
	Currently, the street classifications in Laguna Hills are based on Countywide Master Plan of Arterial Highways classifications as maintained by the Orange County Transportation Authority and adopted by the City upon its incorporation. These classifications and street standards have been incorporated into the existing circulation system design. The classifications use a hierarchy system that classifies streets based on the intended traffic volume capacity and character of travel (i.e., regional vs. local). The City of Laguna Hills General Plan Mobility Element identifies Paseo De Valencia as a major arterial highway between El Toro Road and La Paz Road. Major arterial highways are defined in the City's General Plan as, "…6-lane divided roadways, with a				

	ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	typical right-of-way of 120 feet and raised landscaped median islands. The function of major arterials is to carry a large volume of regional traffic not handled by the freeway system." (Mobility Element, page M-4.). At this time, Paseo De Valencia between El Toro Road and Laguna Hills Drive has two southbound lanes and three north bound lanes along with a Class II bike lane in the southbound direction and a Class I bike lane in the northbound direction. As such, this segment of Paseo De Valencia does not meet the City's 6-lane requirement for major arterial highways. The proposed project would widen Paseo De Valencia between Kennington Drive and Laguna Hills Drive by adding a third southbound lane, which would correct the lane imbalance and bring this segment of the roadway into compliance with the City's General Plan. Therefore, a less than significant impact would occur.					
c)	**Conflict with any applicable habitat conservation plan or natural community conservation plan?**					✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element (Figure COS-1); Appendix B of the City of Laguna Hills General Plan; County of Orange Natural Community Conservation Plan & Habitat Conservation Plan, July 17, 1996)					
	The OC Parks Department manages the NCCP/HCP for the Central and Coastal Subregion of the County of Orange, including portions of Laguna Hills. The NCCP/HCP was prepared in cooperation with CDFG and USFWS. The intent of the NCCP/HCP program is to provide long-term, regional protection of natural vegetation and wildlife diversity, while allowing compatible land use and appropriate development and growth. The NCCP/HCP is accomplished with the institution of a subregional Habitat Reserve System and implemented through a coordinated program to manage biological resources within the habitat reserve. The City of Laguna Hills General Plan, Conservation and Open Space Element does not identify any specific area within the City as being within the NCCP/HCP. Figure COS-1, Open Space and Parklands, does not identify the project study area as being within a designated open space area within the City. Therefore, no impact would occur.					
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?**					✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element (Figure COS-1))					
	Pursuant to the California Mining and Reclamation Act, the California Geological Survey designated areas within the southern and western portions of Laguna Hills as Mineral Resource Zone (MRZ) 1. An MRZ 1 area is where adequate information indicates that no significant mineral deposits are present, or where it has been determined that little likelihood exists for their presence. The proposed project would make improvements to an existing roadway; the project study area is not used for mineral extraction purposes. Therefore, no impact would occur.					
b)	**Result in the loss of availability of a locally-important mineral resource recovery site delineated**					✓

	ISSUES:		Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	on a local general plan, specific plan or other land use plan?					
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element (Figure COS-1))					
	See response XI.a, above.					
XII.	**NOISE** Would the project:					
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?**				✓	
	(**Source**: City of Laguna Hills General Plan, Noise Element; Noise Impact Analysis prepared by Entech Consulting Group, Inc., November 2012)					

Measurement of Sound

Sound intensity is measured through the A-weighted decibel scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times more acoustic energy than one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 decibels. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 A-weighted decibels (dBA) (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source noise, when produced within a relatively flat environment with absorptive vegetation, decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoyance effects of sound. Equivalent continuous sound level (Leq) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the Leq and community noise equivalent level (CNEL) or the day-night average level (Ldn) based on dBA. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly Leq for noise occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and

ISSUES:	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
	a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). Ldn is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and Ldn are within 1 dBA of each other and are normally interchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.			
	Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (Lmax), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by Lmax for short-term noise impacts. Lmax reflects peak operating conditions and addresses the annoyance aspects of intermittent noise. Another noise scale often used together with the Lmax in noise ordinances for enforcement purposes is noise standards in terms of percentile noise levels. For example, the L10 noise level represents the noise level exceeded 10 percent of the time during a stated period. The L50 noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L90 noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the Leq and L50 are approximately the same. Noise impacts can be described in three categories. The first is audible impact, which refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally require a change of 3.0 dB or greater, since this level has been found to be barely perceptible in an exterior environment. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise levels of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant. **California State Building Code** California Government Code Section 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services as shown in Table XII-1, California Land Use Compatibility Noise Guidelines. The City of Laguna Hills has adopted these standards. The guidelines rank noise-land use compatibility in terms of “normally acceptable,” “conditionally acceptable” and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” in exterior noise environments up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries and churches are “normally acceptable” in exterior noise environments up to 70 CNEL, as are office buildings and business, commercial and professional uses. **Local Regulations and Standards** Ultimately, local authority is given to the City of Laguna Hills. Neither the County nor the City have local ordinances set for vehicular noise in the project study area. However, the City of Laguna Hills General Plan Noise Element examines noise sources in the City to identify and assess the potential for noise conflicts and problems and to identify ways to reduce existing and potential noise impacts.			

Table XII-1 – Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure Level (in terms of CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	75 - 85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	75 - 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 - 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA

Source: City of Laguna Hills General Plan: General Plan Guidelines, Office of Planning and Research, California, October 2003, page 250.

Notes:
NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New Construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

NA: Not Applicable

Short-term Construction Noise

During construction of the proposed project improvements, noise from construction activities may intermittently be more audible within the noise environment in the immediate area of construction. The City has developed construction noise regulations to minimize the impacts of construction activity throughout the City. Noise from proposed project construction would be regulated through the City to minimize the construction noise impact for sensitive land uses adjacent to the project study area. Section 5-24.070 of the City of Laguna Hills Municipal Code regulates construction noise. The Noise Ordinance prohibits noise generated by construction activities between the hours of 8:00 PM and 7:00 AM weekdays and 8:00 PM and 8:00 AM on Saturday or at any time on Sundays or a federal holiday.

Typical Construction Noise Levels

Table XII-2 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance.

Table XII-2 – Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration, 2006.

Construction of the proposed project would have the potential to generate noise that could impact surrounding sensitive receivers. However, contractors are required to implement noise reduction measures during construction. Noise would be reduced because construction would be conducted in accordance with applicable local noise standards. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Furthermore, implementation of the mitigation measures described below would minimize temporary noise impacts during construction to a level less than significant.

Mitigation Measures

NOI-1 The City shall retain a qualified consultant to prepare and submit a work plan for approval by the City prior to the commencement of construction. The work plan would stipulate that all equipment is required to have sound-control devices that are no less effective than those provided on the original equipment. The work plan would also stipulate that no equipment shall have an un-muffled exhaust.

NOI-2 The work plan to be prepared by a qualified consultant would require use of appropriate noise reduction measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources. Inclusion of these requirements would be a condition of approval for the work plan.

Long-term Operational Noise

Study Methods and Procedures

A field investigation was conducted to identify land uses that could be subject to traffic and

construction noise impacts from the proposed project. The geographical features of the project study area relative to nearby existing and planned land uses were also identified.

Short-term measurement locations were selected to represent noise-sensitive land uses within the project study area. Short-term measurement locations were selected to characterize the existing environment and to assist with model calibration along with concurrent traffic counts. Several additional receiver locations were identified and used in the noise models to evaluate noise impacts. Refer to Exhibits 14, 15, and 16, as is appropriate.

Field Measurement Procedures

Short-term noise measurements were taken at sensitive receivers within the proposed project study area. Field measurements were taken at these locations to help determine proper shielding and background noise levels. All field measurements were 15 minutes in duration and noise levels are in terms of A weighted decibel equivalent sound level. The following is a brief description of the measurement procedures utilized during field monitoring.

- Microphones were placed 5 feet above the ground elevation for all locations.
- Sound level meters were calibrated before and after each measurement.
- Following the calibration of equipment, a windscreen was placed over the microphone.
- Frequency weighting was set on “A” and slow response.
- Results of the noise measurements were recorded on field data sheets.
- During the noise measurements, any excessive noise contamination such as barking dogs, lawn mowers, and/or aircraft flyovers were noted.
- Wind speed, temperature, humidity, and weather conditions were observed and documented.
- The following instruments were used for field noise measurements:
- Sound Level Meter – A Larson Davis (LD) 824 System sound level meter was used to measure existing noise levels. This sound level meter and its microphone conform to the Institute of Electronic and Electric Engineers and the American National Standards Institute standards for Type 1 instruments.
- Microphone System – LD Model 2560 1.27-centimeter (0.5-inch) pressure microphone; LD Model 900 microphone preamplifier.
- Acoustic Field Calibrator – LD Model CAL250 Precision Acoustic Calibrator.
- Sony DSC-W50 Cyber shot 6.0 Mega Pixel MPEG camera.

Short-term measurements were conducted using a Larson Davis Model 824 Type 1 sound level meter. Measurements were taken over a 15-minute period at each site between the hours of 9:00 AM and noon. Short-term monitoring was conducted at frequent outdoor use areas at sensitive receivers in the project study area. The short-term noise measurement locations are identified in Exhibits 14, 15, and 16.

Traffic on Paseo de Valencia was classified and counted during each short-term noise measurement. Vehicles were classified as automobiles, medium-duty trucks, or heavy-duty trucks. Automobiles are vehicles with two axles and four tires that are designed primarily to carry passengers. Small vans and light trucks are included in this category. Medium-duty trucks included all cargo vehicles with two axles and six tires. Heavy-duty trucks include all vehicles with three or more axles. The posted speed limit on Paseo de Valencia is 45 mph.

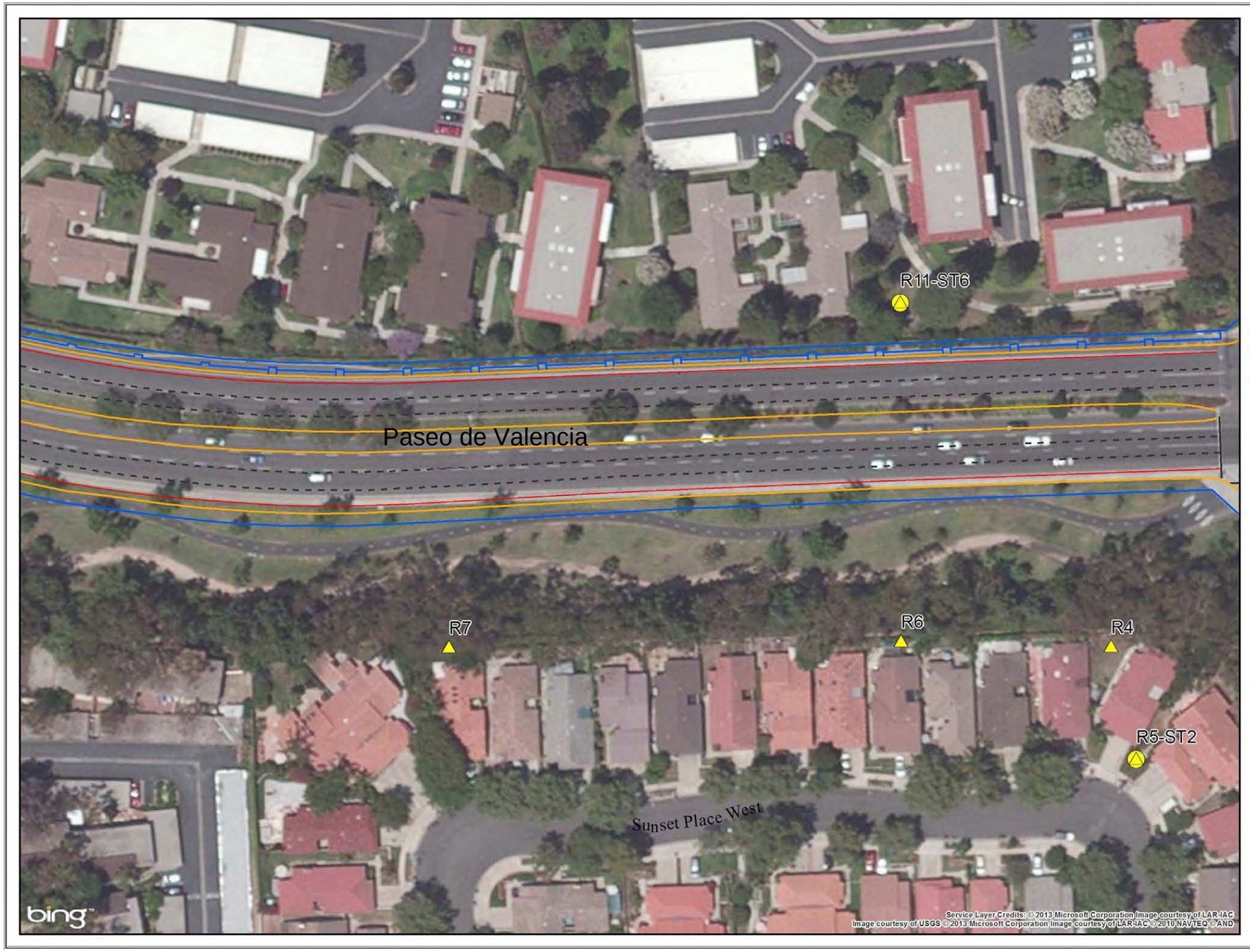
Traffic Noise Levels Prediction Methods

Traffic noise levels were predicted using the FHWA Traffic Noise Model Version 2.5. TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 and FHWA-PD-96-010 (FHWA 1998a, 1998b). Key inputs to the traffic noise model were the locations of roadways, shielding features (e.g., topography and buildings), privacy walls, ground type, and receivers. Three-dimensional representations of these inputs were developed using CAD drawings, aerials, and a topographic map.

To validate the accuracy of field noise measurement results, TNM 2.5 was used to compare

(See Tables XII-3, XII-4, XII-5, and XII-6 for location information)

Exhibit 14: Noise Monitoring Locations (Northern Section)



Paseo de Valencia
Street Improvements Between Laguna Hills Drive and Kennington Drive
Noise Monitoring Location Map

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Noise Monitoring Locations
- Modeled Reciever
- Short-term Measurement

Street Improvements
- Street Lines
- Curb
- Side Walk
- Bike Lane

SCALE=1:800
0 25 50 100
Feet

CHAMBERS GROUP

(See Tables XII-3, XII-4, XII-5, and XII-6 for location information)

Exhibit 15: Noise Monitoring Locations (Middle Section)

(See Tables XII-3, XII-4, XII-5, and XII-6 for location information) Exhibit 16: Noise Monitoring Locations (Southern Section)

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measured noise levels to modeled noise levels at field measurement locations. For each location, traffic volumes counted during a 15-minute period during short-term measurements were normalized to one-hour volumes. Modeled and measured noise levels were then compared to determine the K-factor at each monitoring location.

The TNM 2.5 model is sensitive to the volume of trucks on the roadway because trucks contribute disproportionately to the traffic noise. Truck percentages on Paseo de Valencia were obtained from traffic counts collected during the short-term noise level measurements. The traffic distributions on Paseo de Valencia include 98 percent automobiles, one percent medium duty trucks, and one percent heavy-duty trucks.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. Existing land uses within the project study area are primarily single-family and multi-family residences. These noise-sensitive land use areas are located to the west and east of Paseo de Valencia. The location of particular land uses were the basis for the selection of the noise-monitoring sites. A total of 13 receiver locations were modeled to represent noise-sensitive land uses in the project study area. The short-term measurement locations and modeled receiver locations are shown in Exhibits 14, 15, and 16.

Noise Measurement Results

The primary source of noise in the project study area is traffic traveling on Paseo de Valencia. Short-term (15-minute) noise measurements were conducted to document existing noise levels at six representative sensitive receiver locations in close proximity to Paseo de Valencia. The noise level measurements were performed using a Larson Davis Model 824 Type 1 sound level meter. Table XII-3 contains the location, time and date, duration, and results of the measurements. Table XII-4 describes the physical location of the noise monitoring sites. The noise measurements were used to calibrate the noise model and to predict the existing noise levels at noise-sensitive land uses in the project study area. Noise measurement field monitoring forms are located in Appendix C.

Table XII-3 – Short-Term Noise Level Measurement Results

Receiver	Location	Date/Time	Duration (minutes)	Measured Leq, dBA
ST1	24566 Ashland Drive	7/12/2012 9:24 am	15	53
ST2	24971 Sunset Place West	7/12/2012 9:53 am	15	50
ST3	Alicia Village Apartments 25211 Stockport Street Apt 301	7/12/2012 10:22 am	15	60.8
ST4	Alicia Village Apartments 25211 Stockport Street Apt 337	7/12/2012 10:52 am	15	62.7
ST5	Laguna Woods Retirement Village Units 792-800	7/12/2012 11:46 am	15	55.2
ST6	Laguna Woods Retirement Village Unit 776	7/12/2012 12:15 pm	15	58.6

Source: Entech Consulting Group, November 2012

During the short-term measurements, field staff attended each meter. During the measurement period (15 minutes in duration), dominant noise sources were also identified and logged. The calibration of the meter was checked before and after the measurement using Larson-Davis

Model CAL250 calibrator.

Temperature, wind speed, and humidity were recorded manually during the short-term monitoring session. During the short-term measurements, wind speeds typically ranged from 0 to 3 miles per hour (mph). Temperatures ranged from 70 to 75°F, with relative humidity typically 63 to 72 percent.

Table XII-4 – Physical Location of Noise Level Measurements

Receiver ID	Location Description	Noise Sources	Vehicle Speed (mph)	Traffic Count (15 Minute)
ST3	Measurement was taken at the Alicia Village Apartments near Apartment 301, located north of Stockport Avenue, east of Paseo de Valencia.	Traffic on Paseo de Valencia and Stockport Avenue.	Paseo de Valencia = 45 Stockport Avenue = 30	Paseo de Valencia SB: Autos = 184 MT = 5 HT = 1 Paseo de Valencia NB: Autos = 206
ST4	Measurement was taken at the Alicia Village Apartments near Apartment 337, located north of Stockport Avenue, east of Paseo de Valencia.	Traffic on Paseo de Valencia and Stockport Avenue.	Paseo de Valencia = 45 Stockport Avenue = 30	Paseo de Valencia SB: Autos = 171 HT = 2 Paseo de Valencia NB: Autos = 265 MT = 3 HT = 1
ST5	Located on the eastern limit of the Laguna Woods Retirement Village near units 792-800. This retirement village is located between Avenida Sevilla and Laguna Hills Drive, west of Paseo de Valencia.	Traffic on Paseo de Valencia.	Paseo de Valencia = 45	N/A
ST6	Located on the eastern limit of the Laguna Woods Retirement Village near units 776. This retirement village is located between Avenida Sevilla and Laguna Hills Drive, west of Paseo de Valencia.	Traffic on Paseo de Valencia.	Paseo de Valencia = 45	N/A

Source: Entech Consulting Group, November 2012.
mph = miles per hour
MT = medium truck
HT = heavy truck
N/A = Due to field conditions concurrent traffic counts were not taken at ST-5 and ST-6. However, noise levels are shown for background sound levels.

Existing Noise Levels

The primary existing noise sources in the project study area are transportation facilities. Local traffic traveling on Paseo de Valencia is a steady source of noise in the project vicinity. The FHWA TNM 2.5 was used to evaluate traffic-related noise conditions in the vicinity of the project study area. As TNM 2.5 generates noise levels in dBA Leq and the City's noise standards are expressed in CNEL, 2 dBA is added to the Leq to convert noise levels to CNEL. The existing traffic volumes were obtained from the Traffic Impact Analysis prepared for the proposed project by LIN Consulting, Inc. (May 2012).

TableXII-5 shows the existing noise levels in the project study area. Table XII-5 also lists the location and type of development for each modeled receiver location. As shown in Table XII-5, existing residences in the project study area are exposed to existing noise levels ranging from 56.2 to 69.2 dBA CNEL. A majority of the receivers fall within the Normally Acceptable noise levels.

Table XII-5 – Existing Traffic Noise Levels

Receiver No.	Location	Type of Land Use	Number of Dwelling Units	Measured Noise Level[1]	Modeled Existing Peak Noise Level[2]
R1	24562 Ashland Drive	Single-family Residential	2		60.8
R2/ST1	24566 Ashland Drive	Single-family Residential	0	53.0	61.1
R3	24572 Ashland Drive	Single-family Residential	1		60.6
R4	24971 Sunset Place	Single-family Residential	5		67.4
R5/ST2	24971 Sunset Place	Single-family Residential	0		56.2
R6	24991 Sunset Place	Single-family Residential	5		67.6
R7	25051 Sunset Place	Single-family Residential	4		67.6
R8/ST3	25211 Stockport Street Apt. 301	Multi-family Residential	10	60.8	67.5
R9/ST4	25211 Stockport Street Apt. 337	Multi-family Residential	10	62.7	67.7
R10/ST5	Laguna Woods Village - Retirement Community Units 792-800	Multi-family Residential	8	55.2	62.9
R11/ST6	Laguna Woods Village - Retirement Community Units 776	Multi-family Residential	6	58.6	66.1
R12	Laguna Woods Village - Retirement Community	Multi-family Residential	3		66.8

R13	Laguna Woods Village - Retirement Community	Multi-family Residential	3		69.2

[1] Shaded area represent model receiver location only
[2] Noise levels resulting from utilizing PM Peak Hour Traffic (LIN Consulting, Inc. 2012)

Operational Traffic Noise Impacts

Potential noise impacts associated with project operations are solely from traffic noise. Traffic noise was evaluated for the years 2014 and 2035 with and without the proposed project. Using coordinates obtained from the topographic maps, 13 receiver locations associated with existing single-family and multi-family residences were evaluated in the model.

The predicted worst-case traffic noise levels for the 2014 with Project at the representative sensitive receiver locations within the project study area were determined using traffic volumes from the proposed project's Traffic Impact Analysis Report.

The TNM 2.5 model is sensitive to the volume of trucks on the roadway because trucks contribute disproportionately to the traffic noise. Truck percentages on Paseo de Valencia were obtained from traffic counts collect during the short-term noise level measurement. The traffic distributions on Paseo de Valencia include 98 percent automobiles, one percent medium duty trucks and one percent heavy-duty trucks. A summary of traffic data used to model 2014 conditions with and without the proposed project are presented in Appendix B.

The modeled 2014 with Project noise levels were compared to the modeled 2014 without Project peak noise levels from TNM 2.5 to determine whether a substantial noise increase would occur. Similarly, the modeled 2035 with Project noise levels were compared to the modeled 2035 without Project peak noise levels from TNM 2.5 to determine whether a substantial noise increase would occur. The governing threshold of significance is typically the City's Noise Element of the General Plan and the Municipal Code. However, there are no specific standards regulating transportation noise in the City of Laguna Hills' Noise Element. Additionally, the CEQA guidelines do not provide a definition for what constitutes a 'substantial' increase in noise. For purposes of the proposed project, thresholds of significance were developed for this noise analysis based upon CEQA guidelines (CEQA 2013), the Land Use Compatibility Criteria presented in Table XII-1, and the characteristics of human response to noise. The most sensitive individuals can detect a change in noise level of approximately 3 dBA while a change of 5 dBA is readily noticeable to most people. Therefore, a significant noise impact would result if the project would:

- Expose exterior locations to unacceptable noise levels of greater than 60 dBA and 65 dBA CNEL at single and multi-family residential uses, respectively and greater than 70 dBA CNEL at commercial locations.
- Result in an increase of more than 3 dBA or more above ambient noise levels for locations already exposed to unacceptable noise levels or 5 dBA or more for locations exposed to acceptable noise levels, respectively.

In addition, California Government Code Section 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services, California Land Use Compatibility Noise Guidelines. The City of Laguna Hills has adopted the Land Use Compatibility Noise Guidelines and incorporated them into their General Plan.

Future Traffic Noise Environment

Table XII-6 shows the "Projected Traffic Noise Levels" associated with each of the monitored receiver locations for the 2014 with Project and 2014 without Project models. Table XII-7 shows the "Projected Traffic Noise Levels" associated with each of the monitored receiver locations for the 2035 with Project and 2035 without Project models. Descriptions of noise conditions at sensitive receivers under 2014 with Project and 2035 with Project conditions are described below Tables XII-6 and XII-7.

Table XII-6. Projected Traffic Noise Levels for Existing and 2014 Conditions

Receiver ID	Locations	Existing Noise Levels, dBA CNEL	2014 Without Project Noise Level, dBA CNEL	2014 With Project Noise Level, dBA CNEL	2014 With Project minus Existing, dB	2014 With Project minus 2014 Without Project, dB
R1	24562 Ashland Drive	60.8	60.9	60.4	-0.4	-0.5
R2/ST1	24566 Ashland Drive	--	--	--	--	--
R3	24572 Ashland Drive	60.6	60.7	60.3	-0.3	-0.4
R4	24971 Sunset Place	67.4	67.5	67.3	-0.1	-0.2
R5/ST2	24971 Sunset Place	--	--	--	--	--
R6	24991 Sunset Place	67.6	67.7	67.7	0.1	0.0
R7	25051 Sunset Place	67.6	67.7	67.5	-0.1	-0.2
R8/ST3	25211 Stockport Street Apt. 301	67.5	67.6	67.5	0	-0.1
R9/ST4	25211 Stockport Street Apt. 337	67.7	67.8	67.6	-0.1	-0.2
R10/ST5	Laguna Woods Village - Retirement Community Units 792-800	62.9	62.9	62.7	-0.2	-0.2
R11/ST6	Laguna Woods Village - Retirement Community Units 776	66.1	66.1	66.0	-0.1	-0.1
R12	Laguna Woods Village - Retirement Community	66.8	66.9	66.7	-0.1	-0.2
R13	Laguna Woods Village - Retirement Community	69.2	69.2	68.6	-0.6	-0.6

Source: Entech Consulting, November 2013
1) (--) = Receiver locations R2/ST1 and R5/ST2 were not analyzed in the noise impact analysis. These locations were only used for model calibration purposes.

Table XII-7. Projected Traffic Noise Levels for Existing and 2035 Conditions

Receiver ID	Locations	Existing Noise Levels, dBA CNEL	2035 Without Project Noise Level, dBA CNEL	2035 With Project Noise Level, dBA CNEL	2035 With Project minus Existing, dB	2035 With Project minus 2035 Without Project, dB
R1	24562 Ashland Drive	60.8	61.8	61.3	0.5	-0.5
R2/ST1	24566 Ashland Drive	--	--	--	--	--
R3	24572 Ashland Drive	60.6	61.6	61.2	0.6	-0.4
R4	24971 Sunset Place	67.4	68.4	68.2	0.8	-0.2
R5/ST2	24971 Sunset Place	--	--	--	--	--
R6	24991 Sunset Place	67.6	68.6	68.6	1.0	0.0
R7	25051 Sunset Place	67.6	68.6	68.4	0.8	-0.2
R8/ST3	25211 Stockport Street Apt. 301	67.5	68.5	68.4	0.9	-0.1
R9/ST4	25211 Stockport Street Apt. 337	67.7	68.7	68.4	0.7	-0.3
R10/ST5	Laguna Woods Village - Retirement Community Units 792-800	62.9	63.8	63.6	0.7	-0.2
R11/ST6	Laguna Woods Village - Retirement Community Units 776	66.1	67	66.9	0.8	-0.1
R12	Laguna Woods Village - Retirement Community	66.8	67.8	67.6	0.8	-0.2
R13	Laguna Woods Village - Retirement Community	69.2	70.1	69.5	0.3	-0.6

Source: Entech Consulting, November 2013

1) (--) = Receiver locations R2/ST1 and R5/ST2 were not analyzed in the noise impact analysis. These locations were only used for model calibration purposes.

Receivers R1 through R3

2014 with Project

Receivers R1 through R3 represents the single-family residences located east of Paseo de Valencia and south of Kennington Drive. The dominant noise source for receivers R1 through R3 is local traffic traveling on Paseo de Valencia. These receivers currently have existing barriers, approximately 8 feet in height, which shield them from traffic noise. Existing noise levels at receivers R1 through R3 range from 60.6 to 60.8 dBA CNEL. Noise levels under 2014 with Project conditions for these receivers would range from 60.3 to 60.4 dBA CNEL. Both existing and 2014 with Project noise levels for Receivers R1 and R3 are slightly greater than the 60 dBA CNEL standard for single-family residential land uses and fall within the category of a *Conditionally Acceptable* noise environment. Noise levels at Receivers R1 and R3 under 2014 with Project conditions would be slightly lower than noise levels projected for 2014 without Project conditions. Widening of Paseo de Valencia would slightly lower noise levels at Receivers R1 and R3 by shifting traffic away from the receiver locations. Therefore, implementation of the proposed project would not result in a 3dB noise increase over existing conditions and 2014 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions.

2035 with Project

Receivers R1 through R3 would experience a slight increase in noise levels under 2035 with Project conditions compared to existing conditions. However, these increases compared to existing conditions would be less than 1dB. Both existing and 2035 with Project noise levels for receivers R1 and R3 are slightly over the 60 dBA CNEL standard for single-family residences and fall within the *Conditionally Acceptable range* for Community Noise Environment. Noise levels at Receivers R1 and R3 under 2035 with Project conditions would be slightly lower than noise levels projected for 2035 without Project conditions. Widening of Paseo de Valencia would slightly lower noise levels at Receivers R1 and R3 by shifting traffic away from the receiver locations. Therefore, implementation of the proposed project would not result in a 3dB noise increase over existing conditions and 2035 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions.

Receivers R4 through R7

2014 with Project

Receivers R4 through R7 represent a grouping of single-family residences located east of Paseo de Valencia and south of Beckenham Street. These receivers are not shielded from traffic noise. The dominant noise source for these receivers is local traffic traveling on Paseo de Valencia. Existing noise levels at receivers R4 through R7 range from 67.4 to 67.6 dBA CNEL. Noise levels under 2014 with Project conditions for these receivers would range from 67.3 to 67.7 dBA CNEL. Noise levels under 2014 with Project conditions would be equal to or less than noise levels projected for 2014 without Project conditions. Additionally, receivers R4, R6 and R7 under 2014 with Project conditions would be within the *Conditionally Acceptable* range for Community Noise Environments. Although 2014 with Project noise levels for these receivers would continue to experience noise levels above the 60 dBA CNEL standard for single-family residential exterior land uses, implementation of the proposed project would not result in a 3dB increase over existing conditions and 2014 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions.

2035 with Project

Noise levels under 2035 with Project conditions for receiver R4 through R7 range from 68.2 to 68.6 dBA CNEL. These noise levels represent a slight increase in noise levels under 2035 with

Project conditions compared to existing conditions due to increased traffic volumes in 2035. However, these increases compared to existing conditions would be 1dB or less. Noise levels at receivers R4 through R7 under 2035 with Project conditions would be equal to or less than noise levels under 2035 without Project conditions. Additionally, receivers R4, R6 and R7 under 2035 with Project conditions would be within the *Conditionally Acceptable* for Community Noise Environments. Although 2035 with Project noise levels for these receivers would continue to experience noise levels above the 60 dBA CNEL standard for single-family residential exterior land uses, implementation of the proposed project would not result in a 3dB increase over existing conditions and 2035 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions.

Receivers R8/ST3 and R9/ST4

2014 with Project

Receivers R8/ST3 and R9/ST4 represent multi-family residences at Alicia Village Apartments, located east of Paseo de Valencia and north of Stockport Street. These receivers are not shielded from traffic noise. The dominant noise source for these receivers is local traffic traveling on Paseo de Valencia. Existing noise levels for Receivers R8/ST3 and R9/ST4 are 67.5 and 67.7 dBA CNEL, respectively. Noise levels under 2014 with Project conditions for Receivers R8/ST3 and R9/ST4 would be 67.5 and 67.6 dBA CNEL, respectively, which would be slightly less than projected noise levels under 2014 without Project conditions. Noise levels for receivers R8/ST3 and R9/ST4 under 2014 with Project conditions would not be greater than noise levels projected for 2014 without Project conditions. Noise levels for receivers R8/ST3 and R9/ST4 under 2014 with Project conditions would be within the *Conditionally Acceptable* range for Community Noise Environments. Although 2014 with Project noise levels for these receivers would continue to experience noise levels above the 65 dBA CNEL standard for multi-family residential exterior land uses, implementation of the proposed project would not result in a 3dB increase over existing conditions and 2014 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions.

2035 with Project

Noise levels under 2035 with Project conditions for both Receivers R8/ST3 and R9/ST4 would be 68.4 dBA CNEL. These noise levels represent a slight increase in noise levels under 2035 with Project conditions compared to existing conditions due to increased traffic volumes in 2035. However, these increases compared to existing conditions would be less than 1dB. Noise levels for receivers R8/ST3 and R9/ST4 under 2035 with Project conditions would not be greater than noise levels projected for 2035 without Project conditions. Receivers R8/ST3 and R9/ST4 under 2035 with Project conditions would be within the *Conditionally Acceptable* range for Community Noise Environments. Although 2035 with Project noise levels for these receivers would continue to experience noise levels above the 65 dBA CNEL standard for multi-family residential exterior land uses, implementation of the proposed project would not result in a 3dB increase over existing conditions and 2035 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions.

Receivers R10/ST5 through R13

2014 with Project

Receivers R10/ST5 through R13 represents a mixture of single-family and multi-family residences located along the entire western limits of the proposed project area, west of Paseo de Valencia. There is an existing 5 foot privacy wall shielding traffic noise at these receiver locations, however most of the receivers are located at a higher elevation reducing the shielding they received from the 5 foot privacy wall. The dominant noise source for Receivers R10/ST5 through R13 is local

	traffic traveling on Paseo de Valencia. Existing noise levels at receivers R10/ST5 through R13 range from 62.9 to 69.2 dBA CNEL. Noise levels under 2014 with Project conditions for these receivers would range from 62.7 to 68.6 dBA CNEL. Noise levels for receivers R10/ST5 through R13 under 2014 with Project conditions would not be greater than noise levels project for 2014 without Project conditions. Receivers R10/ST5 through R13 under 2014 with Project conditions would be within the *Conditionally Acceptable* range for Community Noise Environments. Although 2014 with Project noise levels for Receivers R10/ST5 through R13 would continue to experience noise levels above the 65 dBA CNEL for multi-family residential exterior land uses, implementation of the proposed project would not result in a 3dB increase over existing conditions and 2014 with Project noise levels would fall within the same Community Noise Environment categories as existing conditions. 2035 with Project Noise levels under 2035 with Project conditions for Receivers R10/ST5 through R13 range from 63.6 to 69.5 dBA CNEL. These noise levels represent a slight increase in noise levels under 2035 with Project conditions compared to existing conditions due to increased traffic volumes in 2035. Noise levels for receivers R10/ST5 through R13 under 2035 with Project conditions would not be greater than noise levels projected for 2035 without Project conditions. Receivers R10/ST5 through R13 under 2035 with Project conditions would be within the *Conditionally Acceptable* range for Community Noise Environments. Although 2035 with Project noise levels for Receivers R10/ST5 through R-13 would continue to experience noise levels above the 65 dBA CNEL standard for multi-family residential exterior land uses, implementation of the proposed project would not result in a 3dB increase over existing conditions and 2035 with Project noise levels fall within the same Community Noise Environment categories as existing conditions.					
b)	**Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**			✓		
	(**Source**: Supplemental Geotechnical Investigation – Paseo de Valencia Widening Prepared by Group Delta Consultants, Inc., December 20, 2012 (Appendix H))					
	As documented in Section VI.c, vibration associated with project construction would not impact residential or commercial structures located adjacent to the proposed project area. However, vibrations that do not exceed the threshold for structural damage can still be perceived by humans and may be considered annoying. Guideline Vibration Annoyance Potential Criteria in the Caltrans manual shown in Exhibit 13 in Section VI.c, suggests that continuous or frequent intermittent operation of a pavement breaker at a distance of 60 to 85 feet (with Peak Particle Velocity from Exhibit 12 of 0.07 to 0.1 inch/second) could range from distinctly to strongly perceptible. Consequently, vibrations from certain equipment may be perceptible and annoying to occupants of the residential properties along Sunset Place West. However, implementation of mitigation measures GEO-1 through GEO-5 presented in Section VI.c would be implemented as a precaution to monitor the effect of vibration within the residential area along Sunset Place West to reduce impacts to a level less than significant.					
c)	**A substantially permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**					✓
	(Source: City of Laguna Hills General Plan, Noise Element; Noise Impact Analysis prepared by Entech Consulting Group, Inc., November 2012)					

	The proposed project would improve Paseo de Valencia to meet current and future transportation demands, improve safety and enhance aesthetics of the project study area. Given that Paseo de Valencia is already an operating roadway, the proposed project would not introduce new stationary and/or mobile noise sources upon its operation, and therefore would not change the ambient noise environment in the vicinity. Therefore, no impact would occur.					
d)	**A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**				✓	
	(**Source**: City of Laguna Hills General Plan, Noise Element; Noise Impact Analysis prepared by Entech Consulting Group, Inc., November 2012)					
	The primary source of temporary or periodic noise associated with the proposed project is from construction activity and maintenance work. Construction noise typically involves the loudest common urban noise events associated with demolition, grading, construction, large diesel engines, truck deliveries and hauling. Both the General Plan and Municipal Code limit construction activities to specific times and days of the week and during those specified times, construction activity is subject to the noise standards provided in the Code. Considering the short-term nature of construction and the provisions of the City's Noise Ordinance, the temporary and periodic increase in noise levels due to construction which would result from the proposed project would be less than significant.					
e)	**For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**					✓
	(**Source**: John Wayne Airport Rules and Regulations, July 1, 2012; Orange County Airport Environs Land Use Plan Airport Planning Areas Map)					
	The project study area is not located within an airport land use plan or an airport influence area and is not within two miles of a private or public airport. Therefore, the proposed project would not result in exposure of excessive noise levels adjacent to an airport for people working or residing in the project study area. Therefore, no impact would occur.					
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?**					✓
	(**Source**: John Wayne Airport Rules and Regulations, July 1, 2012; Orange County Airport Environs Land Use Plan Airport Planning Areas Map)					
	There are no private airstrips within the City that would expose people working or residing in the City to excessive noise levels. Therefore, no impact would occur.					

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)?**					✓
	(**Source**: City of Laguna Hills General Plan, Housing Element)					
	The proposed project is in an urbanized area and does not propose new homes or businesses that would directly induce substantial population growth. It does not involve the addition of new roads or other infrastructure, but would make improvements to an existing roadway so as to improve safety and accommodate existing and future forecasted area traffic growth. Therefore, no impact would occur.					
b)	**Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**					✓
	(**Source**: City of Laguna Hills General Plan, Housing Element)					
	The proposed project would not displace existing housing, necessitating the construction of replacement housing elsewhere. It does not involve the addition of new roads or other infrastructure, but would make improvements to an existing roadway so as to improve safety and accommodate existing and future forecasted growth. Therefore, no impact would occur.					
c)	**Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**					✓
	(**Source**: City of Laguna Hills General Plan, Housing Element)					
	See responses XIII.a and XIII.b, above. Therefore, no impact would occur.					
XIV.	**PUBLIC SERVICES** Would the project:					
a)	**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 following public services:**					

	i) **Fire protection?**					✓
	(**Source**: Site Visit, July 5, 2012)					
	The project study area does not include any existing fire protection facilities; thus, the proposed project would not have a direct impact on a fire protection facility. In addition, the proposed project would not result in the intensification of land use and, therefore no additional demand for fire protection facilities would result. Therefore, no impact would occur.					
	ii) **Police protection?**					✓
	(**Source**: Site Visit, July 5, 2012)					
	The project study area does not include any existing police protection facilities; thus, the proposed project would not have a direct impact on a police protection facility. In addition, the proposed project would not result in the intensification of land use and, therefore no additional demand for police protection facilities would result. Therefore, no impact would occur.					
	iii) **Schools?**					✓
	(**Source**: Site Visit, July 5, 2012)					
	No schools are located within the project study area. The proposed project is a non-residential use that would not involve the addition of any housing units that would increase the number of school age children. Therefore, no additional demand for school facilities would result, and no impact would occur.					
	iv) **Parks?**				✓	
	(**Source**: Site Visit, July 5, 2012)					
	The proposed project will provide one additional southbound lane to Paseo de Valencia. To make room for the third southbound lane, Paseo de Valencia would be widened along the east side of the street within the open space area that is known as the Aliso Creek Riding and Hiking Trail. The proposed project would require that the existing Orange County maintained Aliso Creek Riding and Hiking Trail be realigned to the east by a few feet to make room for the street widening. The realigned trail would be the same width as the existing trail. New trees would be planted to replace the trees removed within the Aliso Creek Riding and Hiking Trail area, and new irrigation lines would be installed along the northbound lane to provide water for the landscaped strip adjacent to the travel way, the trees within tree wells, and the new trees within the Aliso Creek Riding and Hiking Trail area. These project-required changes to Aliso Creek Riding and Hiking Trail would have a de minimus effect on the overall operation of this park- like facility. Therefore, a less than significant impact would occur. The proposed project is a non-residential use that would not involve the addition of any housing units that would increase population. Therefore, no additional demand for parks would result, and a less than significant impact would occur.					
	v) **Other public facilities?**					✓
	(**Source**: Site Visit, July 5, 2012)					
	No libraries, community centers, or other community facilities are located within the project study area. The proposed project is a non-residential use that would not involve the addition of any housing units that would increase population. Therefore, no additional demand for libraries or other public facilities would result, and no impact would occur.					

XV.	**RECREATION** Would the project:					
a)	**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?**					✓
	(**Source**: City of Laguna Hills General Plan, Community and Services Element)					
	The proposed project is a non-residential use that would not involve the addition of any housing units that would increase population. Therefore, no additional demand for park facilities would result, and no impact would occur.					
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?**					✓
	(**Source**: City of Laguna Hills General Plan, Community and Services Element)					
	The proposed project is a non-residential use that would not involve the addition of any housing units that would increase population, and no new or expanded recreational facilities would be required. Therefore, no impact would occur.					
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?**				✓	
	(**Source**: Traffic Impact Analysis Report – Paseo de Valencia Widening prepared by LIN Consulting, Inc., May 11, 2012; City of Laguna Hills General Plan, Mobility Element)					

	Currently, the street classifications in Laguna Hills are based on Countywide Master Plan of Arterial Highways classifications as maintained by the Orange County Transportation Authority and adopted by the City upon its incorporation. These classifications and street standards have been incorporated into the existing circulation system design. The classifications use a hierarchy system that classifies streets based on the intended traffic volume capacity and character of travel (i.e., regional vs. local). The City of Laguna Hills General Plan Mobility Element identifies Paseo de Valencia as a major arterial highway between El Toro Road and La Paz Road. Major arterial highways are defined in the City's General Plan as, "…6-lane divided roadways, with a typical right-of-way of 120 feet and raised landscaped median islands. The function of major arterials is to carry a large volume of regional traffic not handled by the freeway system." (Mobility Element, page M-4.). At this time, Paseo de Valencia between El Toro Road and Laguna Hills Drive has two southbound lanes and three north bound lanes along with a Class II bike lane in the southbound direction and a Class I bike lane in the northbound direction. As such, this segment of Paseo de Valencia does not meet the City's 6-lane requirement for major arterial highways. The proposed project would widen Paseo de Valencia between Kennington Drive and Laguna Hills Drive by adding a third southbound lane, which would correct the lane imbalance and bring this segment of the roadway into compliance with the City's General Plan. Therefore, a less than significant impact would occur. The proposed project takes into account all modes of transportation including mass transit by installing bus turnouts in place of the existing bus stops; non-motorized travel by adding a sidewalk along the southbound lane and reconfiguring the existing northbound sidewalk; and relevant components of the circulation system by modifying the existing traffic signals at Laguna Hills Drive, Beckenham Street, and Kennington Drive, and by including bike lanes in each direction. Therefore, a less than significant impact would occur. Additionally, parking is prohibited on Paseo de Valencia. Therefore, widening of the existing roadway would not impact existing parking.					
b)	**Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**				✓	
	(**Source**: City of Laguna Hills General Plan, Mobility Element; Traffic Impact Analysis Report – Paseo de Valencia Widening prepared by LIN Consulting, Inc., May 11, 2012)					
	<u>Congestion Management Program</u> The State of California requires urbanized areas such as Orange County to adopt a Congestion Management Program (CMP) with the goal of reducing traffic congestion and facilitating coordination of local land use planning and regional transportation improvement decision. By and large, the Orange County CMP is a composite of data collected by local jurisdictions according to guidelines established by the Orange County Transportation Authority (OCTA). The data is compiled by the OCTA and submitted to the Southern California Association of Governments (SCAG), the agency that determines regional consistency. Within Laguna Hills, Moulton Parkway, El Toro Road, Interstate 5, and State Route 73 are components of the Orange County CMP. Paseo de Valencia is not an identified roadway in the Orange County CMP.					
	<u>Existing Conditions (General Plan/Roadways/Intersections)</u> The project study area is located along Paseo de Valencia between Kennington Drive and Laguna Hills Drive. Roadways that intersect with Paseo de Valencia within the project study area					

are Kennington Drive, Beckenham Street, Avenida Sevilla, Laguna Hills Drive, and Stockport Avenue.

Paseo De Valencia is a north-south major arterial highway between El Toro Road and La Paz Road located just west of the I-5 Freeway. It has two southbound lanes and three north bound lanes along with a Class II bike lane in the southbound direction and a Class I bike lane in the northbound direction in the limits of El Toro Road to Laguna Hills Drive. The current five lane configuration does not meet the City's six lane requirement for major arterial highways that is set in the City's General Plan. The posted speed limit on this roadway is 45 mph in the vicinity of the project study area.

Kennington Drive is a local street that connects the residential development located along Ashland Drive to Paseo de Valencia. Kennington Drive is 40 feet in width with double yellow striping.

Beckenham Street is a local street that connects the residential and commercial developments located to the east of the project study area to Paseo de Valencia. Beckenham Street is 40 feet in width with no striping. The posted speed limit on this roadway is 30 mph.

Avenida Sevilla is a one way exit only private street west of Paseo de Valencia that connects the residents of Laguna Woods Village to Paseo de Valencia.

Laguna Hills Drive between Paseo de Valencia and Moulton Parkway is an east-west primary roadway with two lanes in each direction along with a raised median. There are existing Class II bike lanes along both sides of Laguna Hills Drive west of Paseo de Valencia. The posted speed limit on this roadway is 45 mph. Laguna Hills Drive west of Moulton Parkway changes name to Aliso Viejo Parkway, and east of Paseo de Valencia it changes name to Stockport Avenue.

Stockport Avenue is a local street east of Paseo De Valencia and provides access to residential development in the area. Stockport Avenue is 40 feet in width with no striping.

- **Intersections Analyzed**

Paseo de Valencia (NS) at Kennington Drive (EW) – Paseo de Valencia has two lanes in the southbound direction with an exclusive left turn only lane; northbound Paseo de Valencia has three lanes. Kennington Drive has two lanes in the westbound direction, one exclusive left turn only lane and one exclusive right turn only lane. This is a signalized T-intersection with a Class II bike lane along southbound Paseo de Valencia.

Paseo de Valencia (NS) at Beckenham Street/Avenida Sevilla (EW) – Paseo de Valencia has two lanes in the southbound direction with an exclusive left turn lane and a Class II bike lane; Paseo de Valencia has three lanes in the northbound direction. The west leg of the intersection (Avenida Sevilla) is a one way eastbound only private street that provides egress for the residents of Laguna Woods Village. Avenida Sevilla has two lanes including an exclusive left turn only lane. Westbound Beckenham Street has two lanes, one exclusive left turn only lane and one exclusive right turn only lane. Eastbound Beckenham Street has one lane. This is a signalized intersection.

Paseo de Valencia (NS) at Laguna Hills Drive/Stockport Avenue (EW) – Paseo de Valencia has five lanes in the southbound direction with an exclusive left turn only lane and an exclusive right turn only lane. The third southbound through lane on Paseo de Valencia originates about 250 feet north of the intersection. Northbound Paseo de Valencia has five lanes including two exclusive left turn only lanes. Eastbound Laguna Hills Drive has three lanes, one exclusive left turn only lane, a thru-left turn lane and an exclusive right turn only lane. Westbound Stockport Avenue has two lanes including an exclusive left turn only lane. There is an existing county trail

(Aliso Creek Riding and Hiking Trail) which includes a Class I bike lane and an equestrian trail along northbound Paseo de Valencia starting at the intersection. This is a signalized intersection.

- **Existing Average Daily Traffic (ADT)**

A 24-hour tube count was performed on Paseo de Valencia between Kennington Drive and

Beckenham Street and Beckenham Street and Laguna Hills Drive on Tuesday, March 13, Wednesday, March 14 and on Thursday, March 15, 2012. Table XVI-1 shows the summary of ADT counts for the two locations.

Traffic count data in 15-minute increments for the 24-hour tube counts are provided in Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

Table XVI-1- Summary of ADT Counts Along Paseo de Valencia

	Between Kennington Drive and Beckenham Street			Between Beckenham Street and Laguna Hills Drive		
	Tuesday 03/13/12	Wednesday 03/14/12	Thursday 03/15/12	Tuesday 03/13/12	Wednesday 03/14/12	Thursday 03/15/12
Northbound	15,202	14,593	15,583	14,494	14,092	14,983
Southbound	16,131	16,353	17,117	16,584	16,898	17,640
Total	**31,333**	**30,946**	**32,700**	**31,078**	**30,990**	**32,623**

- **Existing Roadway Segment Analysis**

The technical evaluation of the roadway system in the City is performed using volume-to-capacity (V/C) ratios. V/C ratios are calculated based on current or future average daily traffic (ADT) volumes and daily capacity values for the various types of arterials. A level of service (LOS) scale is used to evaluate roadway performance based on V/C ratios. The LOS levels range from "A" to "F," with LOS "A" representing free flow conditions and LOS "F" representing severe traffic congestion. Descriptions of traffic flow characteristics associated with each LOS are provided in Table XVI-2. Paseo de Valencia is a major arterial highway between El Toro Road and La Paz Road and it is designated as major six lane divided highway in the Orange County Master Plan of Arterial Highways (MPAH). Per Orange County MPAH the capacity of a six lane divided highway is 45,000 Vehicles Per Day (VPD). Since Paseo de Valencia has two southbound lanes and three northbound lanes, the roadway capacity is assumed to be 22,500 and 15,000 VPD, in the northbound and southbound directions, respectively. Roadway Volume to Capacity (V/C) ratios and levels of service based on ADT counts conducted on Thursday, March 15, 2012 are presented in Table XVI-2. As shown in Table XVI-2, northbound Paseo de Valencia is currently operating at LOS "B" and southbound Paseo De Valencia at LOS "F".

Table XVI-2 – Existing Roadway Conditions – Paseo de Valencia

Roadway Segment	Direction	No. of Lanes	Capacity	Existing Volume	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	3	22,500	15,583	0.69	B
	Southbound	2	15,000	17,117	1.14	F
Between Beckenham Street and Laguna Hills Drive	Northbound	3	22,500	14,983	0.67	B
	Southbound	2	15,000	17,640	1.18	F

ICU - Intersection Capacity Utilization, LOS - Level of Service

- **Existing Turning Movement Counts**

Turning movement counts at the study intersections were conducted during the weekday AM peak hour (7:00 AM to 9:00 AM) and PM peak hour (4:00 PM to 6:00 PM) on Wednesday, March 14, 2012. Intersection Turning Movement count data are provided in Appendix D (Traffic Impact

Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

- **Existing Intersection Analysis**

The City accepts the ICU method for traffic impact evaluation purposes. To calculate an ICU, the volume of traffic using the intersection is compared with the capacity of the intersection, usually expressed by percent. The percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The ICU methodology makes adjustment for lost time by adding 0.1 to the sum of critical Volume to Capacity (V/C) ratios to calculate the ICU. The relationship between LOS and V/C is defined in Table XVI-3.

Table XVI-3 – LOS by V/C

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Description
A	0.00 – 0.60	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	0.61 – 0.70	Very good operation. An occasional approach phase is fully utilized. Many drivers feel somewhat restricted within platoons of vehicles.
C	0.71 – 0.80	Good operation. Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.81 – 0.90	Fair operation. Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.
E	0.91 – 1.00	Poor operation. Volumes at or near capacity. Vehicle may wait through several signal cycles. Long queues form upstream from intersection.
F	>1.00	Forced flow. Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Source –Laguna Hills General Plan, 2009.

The acceptable minimum LOS for a signalized intersection in the City is LOS “D” which is an ICU value of 0.9 or less. Existing traffic conditions at the study area intersections are depicted in Table XVI-4. All the study area intersections operate at LOS “B” or better, except the intersection of Paseo de Valencia at Laguna Hills Drive, which operates at LOS “D” during the weekday the PM peak hour. The LOS analysis worksheets for existing traffic conditions are included in Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

Table XVI-4 - Existing Traffic Condition

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour	
	LOS	ICU	LOS	ICU
Paseo de Valencia at Kennington Drive	A	0.384	B	0.632
Paseo de Valencia at Beckenham Street and Avenida Sevilla	A	0.403	B	0.671
Paseo de Valencia at Laguna Hills Drive and Stockport Avenue	A	0.539	D	0.831

ICU - Intersection Capacity Utilization, LOS - Level of Service

Description of Proposed Project Improvements

The City of Laguna Hills General Plan Mobility Element identifies Paseo de Valencia as a major arterial highway between El Toro Road and La Paz Road. Major arterial highways are defined in the City's General Plan as, "…6 lane divided roadways, with a typical right-of-way of 120 feet and raised landscaped median islands. The function of major arterials is to carry a large volume of regional traffic not handled by the freeway system." (page M-4). Currently, Paseo de Valencia between El Toro Road and Laguna Hills Drive has two southbound lanes and three north bound lanes along with a Class II bike lane in the southbound direction and a Class I bike lane in the northbound direction. There is no sidewalk in the southbound direction. This segment of Paseo de Valencia does not meet the City's 6-lane requirement for major arterial highways. The proposed project would widen Paseo de Valencia by adding a third southbound lane between Kennington Drive and Laguna Hills Drive, which would correct the lane imbalance and bring this segment of the roadway into compliance with the City's General Plan. To accommodate the third southbound lane, the contiguous Class II bikes lanes in each direction and a new side walk along the southbound lane, the proposed project would shift the roadway to the east and reconstruct the landscaped median island, as necessary.

Exhibits 3, 4, and 5 depict the proposed lane geometry at the project study area intersections in year 2014 after the proposed roadway improvements are constructed. Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012) presents a layout concept plan of the proposed improvements and cross-sections of Paseo de Valencia between Kennington Drive and Laguna Hills Drive.

The changes to the number of approach lanes at the study area intersections after the construction of the proposed project are:

1. Paseo de Valencia (NS) at Kennington Drive (EW) - The proposed project does not change the number of approach lanes at the intersection of Paseo De Valencia at Kennington Drive.
2. Paseo de Valencia (NS) at Beckenham Street/Avenida Sevilla (EW) - The proposed project would add one lane to the southbound direction. After project completion, southbound Paseo de Valencia would have four lanes with one of them being an exclusive left turn only lane.
3. Paseo de Valencia (NS) at Laguna Hills Drive/Stockport Avenue (EW) - The proposed project does not change the number of approach lanes at the intersection of Paseo de Valencia at Laguna Hills Drive.
4. Improvements along Paseo de Valencia between Kennington Drive and Laguna Hills Drive/Stockport Avenue - The proposed project would add a third southbound through lane on Paseo de Valencia from Kennington Drive to just north of Laguna Hills Drive. The project proposes to add a Class II bike lane along northbound Paseo de Valencia and construct a sidewalk along southbound Paseo de Valencia between Avenida Sevilla and Laguna Hills Drive.

Post Proposed Project Conditions (Roadways/Intersections)

- **Year 2014 Traffic Conditions Without Project**

To assess future traffic conditions in Year 2014, existing traffic is combined with ambient growth. This traffic analysis presents estimated regional growth based upon an ambient growth rate of one (1) percent per year for 2 years, as recommended by the City. In addition to the ambient growth, the study analyzes the impact of cumulative projects which were approved by the City and are expected to be developed by Year 2014 (See Table XVI-5). In addition to the projects in the City of Laguna Hills, the study also verified projects within the City of Laguna Woods that may impact the project study area. As per the information provided by the City of Laguna Woods staff and City website, currently there are no known projects that would impact the project study area. The traffic volumes generated by the cumulative projects are estimated based on the traffic impact studies conducted for those projects. Exhibit F (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012) shows the location of the cumulative projects with respect to the proposed project.

Table XVI-5 – Cumulative Projects

Cumulative Projects	Location	Description
Oakbrook Village Plaza – Phase 1[2]	Adjacent to Laguna Hills Mall and Avenida De La Carlota	Decrease in GLA for the retail land use to 134,000 Sq Ft and construction of 264 new residential apartments
Ashley Furniture[3]	Southwest corner of Paseo de Valencia and Avenida de La Carlota	Ashley Furniture – 30,000 Sq Ft Retail – 21,451 Sq Ft Fast Food w/Drive Through – 4,000 Sq Ft

Source – City of Laguna Hills
2 – Oakbrook Village Plaza, City of Laguna Hills, Traffic Impact Analysis by HDR Engineering
3 – Ashley Furniture Laguna Hills Traffic Study by Austin-Foust Associates, Inc.
GLA – Gross Leasable Area

The intersection turning movement volumes for Year 2014 plus Cumulative Project condition during weekday AM and PM peak hours are shown on Exhibits G and H (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012), respectively.

Table XVI-6 shows the intersection LOS for Year 2014 traffic conditions without the proposed project. All the study area intersections operate at LOS "B" or better, except the intersection of Paseo de Valencia and Laguna Hills Drive, which operates at LOS "D" during the weekday PM peak hour. The ICU calculation worksheets for intersection LOS for Year 2014 plus Cumulative Project traffic conditions are included in Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

Table XVI-6 – Year 2014 + Cumulative Project Traffic Condition

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour	
	LOS	ICU	LOS	ICU
Paseo de Valencia at Kennington Drive	A	0.392	B	0.643
Paseo de Valencia at Beckenham Street and Avenida Sevilla	A	0.411	B	0.683
Paseo de Valencia at Laguna Hills Drive and Stockport Avenue	A	0.547	D	0.845

ICU - Intersection Capacity Utilization, LOS - Level of Service

- **Year 2014 Roadway Segment Analysis Without Project**

The roadway segment analysis for Year 2014 without the proposed project is based on the ADT counts conducted on Thursday, March 15, 2012. Year 2014 ADT counts are estimated based on the ambient growth rate of one (1) percent per year for 2 years, and the traffic generated by the cumulative projects. Roadway Volume to Capacity (V/C) ratios and levels of service for year 2014 without the proposed project are presented in Table XVI-7. Paseo de Valencia between Kennington Drive and Beckenham Street operates at LOS "C" and "F" in the northbound and southbound directions, respectively. Paseo de Valencia between Beckenham Street and Laguna Hills Drive operates at LOS "B" and "F" in the northbound and southbound directions, respectively.

Table XVI-7 - Paseo De Valencia - Year 2014 + Cumulative Project Traffic Condition

Roadway Segment	Direction	No. of Lanes	Capacity	Existing Volume	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	3	22,500	15,957	0.71	C
	Southbound	2	15,000	17,522	1.17	F
Between Beckenham Street and Laguna Hills Drive	Northbound	3	22,500	15,345	0.68	B
	Southbound	2	15,000	18,056	1.20	F

V/C – Volume to Capacity Ratio, LOS - Level of Service

- **Year 2014 Traffic Conditions Plus Project**

Intersection LOS for the Year 2014 plus Project Traffic Condition have been calculated and shown in Table XVI-8. The proposed project would not generate new traffic trips, but has been designed to accommodate future traffic growth. All the project study area intersections operate at LOS "B" or better, except the intersection of Paseo de Valencia and Laguna Hills Drive, which operates at LOS "D" during the weekday PM peak hour. Year 2014 plus Project Traffic LOS calculation worksheets are included in Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

Table XVI-8 - Year 2014 + Cumulative Project + Project Traffic Condition

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour	
	LOS	ICU	LOS	ICU
Paseo de Valencia at Kennington Drive	A	0.392	B	0.643
Paseo de Valencia at Beckenham Street and Avenida Sevilla	A	0.400	A	0.510
Paseo de Valencia at Laguna Hills Drive and Stockport Avenue	A	0.547	D	0.845

ICU - Intersection Capacity Utilization, LOS - Level of Service

Roadway Volume to Capacity (V/C) ratios and levels of service for Year 2014 plus Project Traffic Condition are presented in Table XVI-9. The proposed project would add a third southbound through lane on Paseo de Valencia from Kennington Drive to just north of Laguna Hills Drive thus increasing the capacity of the southbound Paseo de Valencia from 15,000 VPD to 22,500 VPD. After the proposed improvements in year 2014, Paseo de Valencia between Kennington Drive

and Beckenham Street operates at LOS "C" and Paseo de Valencia between Beckenham Street and Laguna Hills Drive operates at LOS "B" and "C" in the northbound and southbound directions, respectively.

Table XVI-9 - Paseo De Valencia - Year 2014 + Cum Project + Project Traffic Condition

Roadway Segment	Direction	No. of Lanes	Capacity	Existing Volume	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	3	22,500	15,957	0.71	C
	Southbound	3	22,500	17,522	0.78	C
Between Beckenham Street and Laguna Hills Drive	Northbound	3	22,500	15,345	0.68	B
	Southbound	3	22,500	18,056	0.80	C

V/C – Volume to Capacity Ratio, LOS - Level of Service

- **Impact of Proposed Project on Project Study Area In Year 2014**

Table XVI-10 shows the change in LOS and ICU ratio due to the proposed project improvements along Paseo de Valencia at the project study area intersections in Year 2014. There is no change in the LOS at the project study area intersections except for the intersection of Paseo de Valencia and Beckenham Street where the LOS during the PM peak hour improves from LOS "B" to LOS "A" and the ICU decreases by 2.68% and 25.33% during AM and PM peak hours, respectively.

Table XVI-10 - Change in LOS and ICU for Year 2014 due to Proposed Project

Intersection	Year 2014 Without Project LOS/(ICU)		Year 2014 With Project LOS/(ICU)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Paseo de Valencia at Kennington Drive	A/(0.392)	B/(0.643)	A/(0.392)	B/(0.643)
Paseo de Valencia at Beckenham Street/ Avenida Sevilla	A/(0.411)	B/(0.683)	A/(0.400)	A/(0.510)
Paseo de Valencia at Laguna Hills Drive/ Stockport Avenue	A(0.547)	D/(0.845)	A(0.547)	D/(0.845)

LOS - Level of Service, ICU – Intersection Capacity Utilization

Table XVI-11 shows the change in LOS and V/C ratio due to the proposed project improvements along Paseo de Valencia in Year 2014. The LOS on southbound Paseo de Valencia improves from LOS "F" to LOS "C" and the V/C ratio decreases by 33%.

Table XVI-11 - Change in LOS and V/C for Year 2014 due to Proposed Project

Roadway Segment	Direction	Year 2014 Without Project		Year 2014 With Project	
		V/C	LOS	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	0.71	C	0.71	C
	Southbound	1.17	F	0.78	C
Between Beckenham Street and Laguna Hills Drive	Northbound	0.68	B	0.68	B
	Southbound	1.20	F	0.80	C

V/C – Volume to Capacity Ratio, LOS - Level of Service

- **Year 2035 Traffic Conditions Without Project**

In addition to the proposed project build out year the traffic study analyzes the project study area intersections for the horizon year (2035). The horizon year traffic volumes are estimated based upon the ambient growth rate of one (1) percent per year for 23 years, as recommended by the City.

The intersection turning movement volumes for the Year 2035 condition during weekday AM and PM peak hours are shown on Exhibits I and J (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012), respectively.

Table XVI-12 shows the intersection LOS for the Year 2035 traffic conditions without the proposed project. All of the project study area intersections operate at LOS "D" or better, except the intersection of Paseo de Valencia at Laguna Hills Drive, which operates at LOS "F" during the weekday PM peak hour. The ICU calculation worksheets for intersection LOS for Year 2035 traffic conditions are included in Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

Table XVI-12 - Year 2035 Traffic Condition (Without Project)

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour	
	LOS	ICU	LOS	ICU
Paseo de Valencia at Kennington Drive	A	0.457	C	0.769
Paseo de Valencia at Beckenham Street and Avenida Sevilla	A	0.480	D	0.818
Paseo de Valencia at Laguna Hills Drive and Stockport Avenue	B	0.651	F	1.019

ICU - Intersection Capacity Utilization, LOS - Level of Service

Year 2035 weekday PM peak hour LOS at the intersection of Paseo de Valencia at Laguna Hills Drive is below the City's performance standard for intersections of LOS "D". The LOS can be brought back to acceptable LOS "D" by widening and restriping southbound Paseo de Valencia to provide dual right turn lanes along with an exclusive left turn only lane and three through lanes.

- **Year 2035 Roadway Segment Analysis Without Project**

The roadway segment analysis for Year 2035 without the proposed project is based on the ADT counts conducted on Thursday, March 15, 2012. Year 2035 ADT counts are estimated based on the ambient growth rate of one (1) percent per year for 23 years. Roadway Volume to Capacity

(V/C) ratios and levels of service for Year 2035 without the proposed project are presented in Table XVI-13. Paseo de Valencia between Kennington Drive and Laguna Hills Drive operates at LOS "D" and "F" in the northbound and southbound directions, respectively.

- **Year 2035 Traffic Conditions Plus Project**

Intersection LOS for Year 2035 plus Project Traffic Condition have been calculated and shown in Table XVI-14. Year 2035 plus Project Traffic LOS calculation worksheets are included in Appendix D (Traffic Impact Analysis Report prepared by LIN Consulting, Inc., May 11, 2012).

Roadway Volume to Capacity (V/C) ratios and levels of service for Year 2035 plus Project Traffic Condition are presented in Table XVI-15. After the proposed improvements in Year 2035, Paseo de Valencia between Kennington Drive and Laguna Hills Drive operates at LOS "D" and "E" in the northbound and southbound directions, respectively.

Table XVI-13 - Paseo De Valencia - Year 2035 Traffic Condition (Without Project)

Roadway Segment	Direction	No. of Lanes	Capacity	Existing Volume	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	3	22,500	19,590	0.87	D
	Southbound	2	15,000	21,519	1.43	F
Between Beckenham Street and Laguna Hills Drive	Northbound	3	22,500	18,836	0.84	D
	Southbound	2	15,000	22,176	1.48	F

V/C – Volume to Capacity Ratio, LOS - Level of Service

Table XVI-14 - Year 2035 + Project Traffic Condition

Intersection	Weekday AM Peak Hour		Weekday PM Peak Hour	
	LOS	ICU	LOS	ICU
Paseo de Valencia at Kennington Drive	A	0.457	C	0.769
Paseo de Valencia at Beckenham Street and Avenida Sevilla	A	0.466	B	0.606
Paseo de Valencia at Laguna Hills Drive and Stockport Avenue	B	0.651	F	1.019

V/C – Volume to Capacity Ratio, LOS - Level of Service

Table XVI-15 - Paseo De Valencia - Year 2035 + Project Traffic Condition

Roadway Segment	Direction	No. of Lanes	Capacity	Existing Volume	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	3	22,500	19,590	0.87	D
	Southbound	3	22,500	21,519	0.96	E
Between Beckenham Street and Laguna Hills Drive	Northbound	3	22,500	18,836	0.84	D
	Southbound	3	22,500	22,176	0.99	E

V/C – Volume to Capacity Ratio, LOS - Level of Service

- **Impact of Proposed Project on Study Area in Year 2035**

Table XVI-16 shows the change in LOS and ICU due to the proposed project improvements along Paseo de Valencia at the study area intersections in Year 2035. There is no change in the LOS at the study area intersections except for the intersection of Paseo de Valencia and Beckenham Street where the LOS during PM peak hour improves from LOS "D" to LOS "B" and the ICU decreases by 2.92% and 25.92% during AM and PM peak hours, respectively.

Table XVI-17 shows the change in LOS and V/C ratio due to the proposed project improvements along Paseo de Valencia in Year 2035. The LOS on southbound Paseo de Valencia improves from LOS "F" to LOS "E" and the V/C ratio decreases by 33%.

Table XVI-16 - Change in LOS and ICU for Year 2035 due to Proposed Project

Intersection	Year 2035 Without Project LOS/(ICU)		Year 2035 With Project LOS/(ICU)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Paseo de Valencia at Kennington Drive	A/(0.457)	C/(0.769)	A/(0.457)	C/(0.769)
Paseo de Valencia at Beckenham Street/ Avenida Sevilla	A/(0.480)	D/(0.818)	A/(0.466)	A/(0.606)
Paseo de Valencia at Laguna Hills Drive/ Stockport Avenue	B(0.651)	F/(1.019)	B(0.651)	F/(1.019)

LOS - Level of Service, ICU - Intersection Capacity Utilization

Table XVI-17 - Change in LOS and V/C for Year 2035 due to Proposed Project

Roadway Segment	Direction	Year 2035 Without Project		Year 2035 With Project	
		V/C	LOS	V/C	LOS
Between Kennington Drive and Beckenham Street	Northbound	0.87	D	0.87	D
	Southbound	1.43	F	0.96	E
Between Beckenham Street and Laguna Hills Drive	Northbound	0.84	D	0.84	D
	Southbound	1.48	F	0.99	E

V/C – Volume to Capacity Ratio, LOS - Level of Service

- **Conclusion**

The analysis of Existing (2012), Opening Year (2014) and Horizon Year (2035) traffic conditions has shown that the proposed widening and reconstruction of Paseo de Valencia to a six lane configuration between Kennington Drive and Laguna Hills Drive, maintains all intersections at the City standard of LOS "D" or better, except for the intersection of Paseo de Valencia at Laguna Hills Drive, which is projected to operate at LOS "F" in 2035 during PM peak hour unless the southbound Paseo de Valencia is widened and restriped to provide dual right turn lanes along with an exclusive left turn only lane and three through lanes, which improves the LOS to "D". However, this intersection would operate at LOS "F" without project improvements, and this unacceptable level of service cannot be attributed to the proposed project.

The addition of a third southbound through lane on Paseo de Valencia from Kennington Drive to just north of Laguna Hills Drive increases the overall capacity of the roadway from 37,500 VPD to 45,000 VPD. The roadway segment analysis shows that the LOS along southbound Paseo de Valencia between Kennington Drive and Laguna Hills Drive improves from LOS "F" to LOS "C" and LOS "F" to LOS "E" in Year 2014 and 2035, respectively. Therefore, a less than significant

	impact would occur.					
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?**					✓
	(**Source**: John Wayne Airport Rules and Regulations, July 1, 2012; Orange County Airport Environs Land Use Plan Airport Planning Areas Map; AELUP Height Restriction Zone for JWA Map)					
	All airports, public and private, with influence area over a City have a valid airport land use plan. John Wayne Airport is the only commercial service airport in Orange County. It is located approximately 8 miles northwest of the City of Laguna Hills, between the cities of Costa Mesa, Irvine, Newport Beach, and Santa Ana.					
	A review of the safety and/or airport compatibility zones found that the project study area is not located within any airport land use plan area or compatibility zone. The proposed project would not change air traffic patterns. Therefore, no impact would occur.					
d)	**Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**				✓	
	(**Source**: City of Laguna Hills General Plan, Mobility Element; Traffic Impact Analysis Report – Paseo de Valencia Widening prepared by LIN Consulting, Inc., May 11, 2012)					
	Along Paseo de Valencia between Beckenham Street/Avenida Sevilla and Laguna Hills Drive there is a curve in the roadway that could affect a driver's sight distances. Project design would include a requirement to plant low height landscaping within the landscaped strip adjacent to the sidewalk at the curve in the southbound direction and within the landscaped median in the northbound direction to maintain proper sight distances. Additionally, the proposed project has been designed consistent with applicable safety standards and would not create unsafe conditions that could increase the risk of car accidents at these intersections. Therefore, a less than significant impact would occur.					
e)	**Result in inadequate emergency access?**					✓
	(**Source**: City of Laguna Hills General Plan, Mobility Element; Traffic Impact Analysis Report – Paseo de Valencia Widening prepared by LIN Consulting, Inc., May 11, 2012)					
	A TCP would be implemented to maintain adequate circulation and allow for emergency access during project construction. The TCP will be prepared consistent with CA MUTCD standards and will provide guidance for the appropriate use of traffic control devices such as temporary K-rail, channelizes, barricades, arrow boards, temporary signage and striping for each phase of construction. Implementation of the TCP will ensure that adequate circulation access and safety is maintained within the proposed project area for local motorists and residents during construction. The project study area is currently developed and the proposed roadway improvements would benefit traffic flow by adding capacity without modifying existing emergency vehicle access. The improved operation of the roadway due to the capacity improvements would improve emergency vehicle response times along the corridor. Therefore, no impact would occur.					

f)	**Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**					✓
	(**Source**: City of Laguna Hills General Plan, Mobility Element; Traffic Impact Analysis Report – Paseo de Valencia Widening prepared by LIN Consulting, Inc., May 11, 2012)					
	The proposed project improvements include bike lanes in each direction and, for additional safety and improved traffic flow, the installation of bus turnouts in place of existing bus stops. A new southbound sidewalk is also added with the proposed project. Therefore, no impact would occur.					
XVII.	**UTILITIES AND SERVICE SYSTEMS** Would the project:					
a)	**Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space and Community Services and Facilities Elements; STV, Inc.)					
	The proposed project would construct roadway and landscaped median island improvements that would add 14,807 square feet of impervious surfaces (e.g. pavement) and 1,880 square feet of pervious surfaces (e.g. landscaping), resulting in a net increase of 16,687 square feet (0.38 acres) of surface and a net increase in total surface runoff, which would not contribute wastewater to the sanitary sewer system. In addition to the increase in stormwater due to the increase in impervious surfaces, the proposed project would also involve irrigation. The irrigated area would be designed to retain the landscape related irrigated water. The proposed project would be required to comply with all provisions of the NPDES program, which ensures that the proposed project would not exceed applicable wastewater treatment requirements of the Santa Ana RWQCB with respect to discharges to the stormwater system within the City. As described in Section IX (c), the proposed project would not alter the high point of the drainage pattern that covers the project site located 700-feet north of Laguna Hills Drive. Similarly, the proposed project would not alter storm water runoff or tributary areas within the project area. As described in Section IX (a), the WQMP prepared for the proposed project has identified stormwater management measures to effectively control erosion and sedimentation such as vegetated (grass swales) to filter out pollutants and infiltration trenches to adequately convey storm water during rain events. Additionally, the proposed project would incorporate water quality features identified in the Los Angeles Green Streets Initiative into the street design. These include utilizing a landscaped buffer between the sidewalk and street and constructing water quality planter areas to maximize the possibility of infiltration. A description of all BMPs to be utilized by the proposed project is provided in the WQMP prepared for the proposed project. Therefore, a less than significant impact would occur.					
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?**				✓	

	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element; STV, Inc.; Cornerstone Studios, Inc.)					
	The proposed project would not result in the construction of new or expanded water or wastewater treatment facilities. The proposed project is a roadway improvement project that would not generate sanitary sewer flows, would constitute a minor source of stormwater and non-stormwater runoff, and would utilize only minor amounts of water for the median and landscaped strips adjacent to the travel way. In particular, median landscaping would incorporate current water conservation needs by utilizing low to medium water usage trees, shrubs and turf to reduce overall water use. The irrigation system would be designed with high efficiency rotary nozzles for turf, and landscape drip line for shrub areas. Finally, the proposed project would result in relocation or reconstruction of existing water facilities, such as water meters, water valves, and backflow preventers. However, such relocations or reconstructions are minor in scope and are considered routine. Therefore, the impacts related to water infrastructure would be less than significant.					
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?**				✓	
	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element; STV, Inc.)					
	As stated in response to question IX.a, under Hydrology and Water Quality, the impervious area of the project study area would increase by 0.38 acres to allow for roadway widening. The proposed project would construct standard roadway improvements including curbs and gutters. However, the increase in runoff would be minor, and the proposed project would connect to the existing storm drain pipelines, catch basins, and connector pipes. The existing facilities have adequate capacities to intercept and convey the proposed project runoff. Therefore, the proposed project impact on storm drain facilities would be less than significant.					
d)	**Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element; STV, Inc.)					
	Laguna Hills obtains water services from the Moulton Niguel Water District (MNWD) and the El Toro Water District (ETWD). Water services are provided in the northern portion of the City by the ETWD and in the southern portion of the City by the MNWD. The division line runs through a neighborhood north of Alicia Parkway and south of Aliso Creek, and separates the project study area. Water from both Districts comes from the Colorado River and the State Water Project (which draws water from the San Francisco-San Joaquin Bay Delta) and travels hundreds of miles to the local water districts through an intricate aboveground and underground delivery system operated by the Metropolitan Water District of Southern California. The proposed project would not use substantial amounts of water based on where both water companies serving the City obtain their water supply. Although the proposed project would install new median island landscaping, the irrigation system would be designed to reduce water usage compared to the amount used to irrigate existing landscaping. Irrigation for existing landscaping uses a mix of recycled water and ground water. However, irrigation for the new median island landscaping for the proposed project would rely exclusively on recycled water. As described in					

	Section XIII(a) the proposed project would not induce growth that could impact existing water supplies. Therefore, a less than significant impact would occur.					
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?**				✓	
	(**Source**: City of Laguna Hills General Plan, Community Services and Facilities Element; STV, Inc.*)*					
	See response XVII.b, above.					
f)	**Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**					✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element)					
	The proposed project would construct roadway improvements and median island landscaping, and would not constitute a significant source of solid waste. City Policy COS-1.20 encourages recycling and reuse of construction and demolition materials to encourage maximum diversion of waste from landfill areas, which would be a project requirement. Therefore, no impact would occur.					
g)	**Comply with federal, state, and local statutes and regulations related to solid waste?**					✓
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element)					
	See response XVII.f, above.					
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 periods of California history or prehistory?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space Element; and Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012)					

	Potential impacts related to habitat of fish or wildlife species were discussed in the Biological Resources Section of this Initial Study, and were all found to be less than significant. Potential impacts to cultural, archaeological and paleontological resources related to major periods of California and the City of Laguna Hills' history or prehistory were discussed in the Cultural Resources Section of this Initial Study, and were found to be less than significant with mitigation.					
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)?**					✓
	(**Source**: Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012; and Traffic Impact Analysis Report – Paseo de Valencia Widening prepared by LIN Consulting, Inc., May 11, 2012)					
	No adverse cumulative impacts were identified in the initial analysis. Therefore, no impacts would result from the proposed project.					
c)	**Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**				✓	
	(**Source**: City of Laguna Hills General Plan, Conservation and Open Space, Land Use, Safety, Community Services and Facilities, and Mobility Elements; Code of Federal Regulations, Title 49; Emergency Planning and Right-to-Know Act (SARA Title III); California Health and Safety Code, Chapter 6.95; Government Code Section 65962.5 (Cortese List); CERCLIS; DTSC EnviroStar Database Listed Sites; County of Orange Natural Community Conservation Plan & Habitat Conservation Plan, July 17, 1996; Division of Mines and Geology Special Publication 42; Geotechnical Investigation prepared by Group Delta Consultants, Inc. May 21, 2012; John Wayne Airport Rules and Regulations, July 1, 2012; Orange County Airport Environs Land Use Plan Airport Planning Areas Map; AELUP Height Restriction Zone for JWA Map; South Coast Air Quality Management District's Air Quality Management Plan, 2007; South Coast Air Quality Management District CEQA Air Quality Handbook; State Health and Safety Code Section 7050.5; PRC 5097.98; Traffic Impact Analysis Report prepared by Lin Consulting, Inc., May 11, 2012)					
	Effects on human beings were evaluated as part of the aesthetics, air quality, hazards and hazardous materials, hydrology and water quality, noise, population and housing, and traffic sections of this initial study and found to be less than significant or no impact for each of the above sections. Based on the analysis and conclusions in this initial study, the proposed project would not cause substantial adverse effects, directly or indirectly to human beings. Therefore, potential direct and indirect impacts on human beings that result from the proposed project are less than significant.					

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